



# **MEASURING FISCAL INCIDENCE AND ITS REDISTRIBUTIVE IMPACT IN SWAZILAND**

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By

Mathale'a Lukhele

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Supervisor: Professor John Luiz



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## **ABSTRACT**

According to Swaziland's National Development Strategy, the country's objectives are to improve the standard of living of all citizens, eradicate poverty, create employment, enhance gender equality and improve the country's human development ranking from a low human development rank to a high human development rank by 2022. Persistent poverty and the unequal distribution of income have, however, posed significant challenges for the country in achieving these development goals.

This study assessed the extent to which the government of Swaziland has been able to use its fiscal policy, in particular the tax and public expenditure policies on health and education, to redistribute resources and reduce income inequality. The study also investigated the incidence of out-of-pocket expenses incurred by households in accessing public health and education facilities. Based on both the Swaziland Household Income and Expenditure Survey data collected in the 2010 national survey and the government's 2010 budget, the study found that the tax policy had had a slight redistributive effect, as the Gini coefficient, had dropped from 0.7909 (pre-tax income distribution) to 0.7424 (post-tax income distribution). Public expenditure on education improved the income of poor households by 32.83 per cent and had led to a further reduction in the Gini to 0.7185; however, public expenditure on tertiary education was poorly targeted as rich households were deriving a higher benefit than poor households. Out-of-pocket expenses on health were not regressive despite the fact that there was a low usage of health facilities by the low income households. On the other hand, education out-of-pocket expenses were found to be regressive and had a negative impact on the progression rates from primary education to higher learning institutions in the low income households.

Overall it would appear that the country's fiscal policy has led to a reduction in the country's income inequality. However, the country has not made significant progress towards the achievement of its development goals, with the 2010 national household survey revealing that the poverty rate was still relatively high at 0.630, while the 2010 labour force survey revealed that unemployment was still high at 0.406 and the 2014 human development report showed that the country was still ranked low in terms of human development.

## Contents

<b>PLAGIARISM DECLARATION.....</b>	<b>i</b>
<b>Acknowledgement.....</b>	<b>vi</b>
<b>CHAPTER 1 INTRODUCTION.....</b>	<b>1</b>
1.1 Research Area .....	1
1.2 Problem Statement.....	1
1.3 Purpose and Significance of the Research .....	2
1.4 Research Question and Scope.....	4
1.4.1 Research Question.....	4
1.4.2 Scope of Research .....	4
1.5 Research Assumptions.....	5
<b>CHAPTER 2 LITERATURE REVIEW .....</b>	<b>7</b>
2.1 Introduction .....	7
2.2 Government Policy and Public Finance.....	7
2.3 Tax Policy and Incidence.....	7
2.3.1 Tax Policy .....	7
2.3.2 Properties of a Good Tax .....	8
2.3.3 Optimal Tax.....	8
2.3.4 Tax Incidence.....	9
2.4 Public Expenditure Policy and Incidence.....	10
2.4.1 Public Expenditure Policy .....	10
2.4.2 Public Expenditure Incidence.....	11
2.4.3 Fiscal Incidence .....	12
2.4.4 Fiscal Incidence Analysis.....	14
2.4.5 Fiscal Incidence and Inequality .....	14
2.4.6 Measuring Fiscal Incidence .....	16
2.5 Progressivity and Distributive Impact .....	17
2.5.1 Tax Progressivity and Distributive ability.....	17
2.5.2 Public Expenditure Progressivity and Redistributive Ability .....	18
2.5.3 Financing of Public Expenditure .....	20
2.6 Conclusion.....	24
<b>CHAPTER 3 RESEARCH METHODOLOGY .....</b>	<b>27</b>
3.1 Swaziland's Fiscal Policy Toolkit .....	27
3.2 Data Collection, Frequency and Choice of Data .....	28
3.3 Data Analysis Methods.....	29
3.3.1 Tax and Expenditure Incidence.....	29
3.3.2 Net Fiscal Incidence .....	33
3.3.3 Measuring the Net Fiscal Incidence for Swaziland .....	34
3.4 Research Limitations.....	34
<b>CHAPTER 4 DATA ANALYSIS AND DISCUSSION.....</b>	<b>36</b>
4.1 Income Distribution .....	37
4.2 Analysis of Tax Incidence .....	38
4.2.1 Overview of Swaziland's Tax System.....	38
4.2.2 Personal Income Tax Incidence .....	42
4.2.3 Graded Tax Incidence .....	43
4.2.4 Combined Direct Taxes.....	44
4.2.5 Indirect Tax Incidence .....	47
4.3 Public Expenditure Incidence.....	56
4.3.1 Education Spending Incidence .....	57
4.3.2 Primary Education.....	59
4.3.3 Secondary School Education .....	60

4.3.4 Tertiary Education.....	61
4.3.5: Combined Education Subsidy .....	63
4.3.6 Redistributive Impact of Education Spending.....	64
<b>4.4 Health Spending Incidence.....</b>	<b>68</b>
<b>4.5 Household Usage of Health Facilities .....</b>	<b>69</b>
<b>4.6 Combined Health and Education Financing Incidence.....</b>	<b>71</b>
<b>4.7 Net Fiscal Incidence .....</b>	<b>72</b>
<b>CHAPTER 5 RESEARCH CONCLUSIONS .....</b>	<b>74</b>
<b>5.1 Summary of Findings .....</b>	<b>74</b>
<b>5.2 Policy Implications and Recommendations .....</b>	<b>77</b>
<b>CHAPTER 6 RECOMMENDATIONS FOR FUTURE RESEARCH .....</b>	<b>80</b>
<b>BIBLIOGRAPHY.....</b>	<b>81</b>

## List of Figures

Figure 1: Income Definition and Fiscal Incidence Analysis .....	13
Figure 2: Pre-fiscal incidence income distribution .....	37
Figure 3: Government Revenue Allocation .....	40
Figure 4: Direct Taxes .....	41
Figure 5: Indirect Taxes .....	41
Figure 6: Income Distribution and Direct Taxes .....	46
Figure 7: Direct Taxes Concentration Curve .....	47
Figure 8: Poor Households Consumption Basket .....	48
Figure 9: Rich Households Consumption Basket .....	49
Figure 10: Indirect Taxes and Concentration Curves .....	54
Figure 11: Post-tax Income Distribution .....	56
Figure 12: Swaziland's Education Landscape .....	58
Figure 13: Education Out of Pocket Expenses .....	68
Figure 14: Income Distribution Pre-fiscal Intervention and after Fiscal Intervention .....	72
Figure 15: Pre-fiscal incidence and Post-fiscal incidence concentration curves .....	73

## List of Tables

Table 1: Government Revenue Collections to GDP from 2009/10 to 2014/16 .....	39
Table 2: Personal Income Tax Incidence .....	42
Table 3: Graded Tax Incidence .....	44
Table 4: Combined Direct Taxes .....	45
Table 5: Combined Direct Tax Indices .....	45
Table 6: VAT Incidence .....	50
Table 7: Fuel Levy Incidence .....	51
Table 8: Excise Tax Incidence .....	52
Table 9: Overall Indirect Tax Incidence based on Expenditure as a Welfare Measure .....	53
Table 10: Overall Indirect Tax Incidence based on Income as a Welfare Measure .....	54
Table 11: Indirect Taxes Indices .....	55
Table 12: Overall Tax Incidence .....	55
Table 13 : Government Spending on Education .....	57
Table 14: Unit Estimation of Education Subsidy .....	58
Table 15: Primary Education Benefit Incidence .....	59
Table 16: Secondary Education Subsidy .....	61
Table 17: Progression rates from Primary School to Secondary School .....	61
Table 18: Tertiary Education Subsidy .....	62
Table 19: Proportion of Subsidy to Households and the Contribution of the Subsidy to Income ..	63
Table 20: Progression rates from secondary education to higher learning institutions .....	65
Table 21: Education Expenditure Incidence .....	66
Table 22: Universal Education Indicators .....	66
Table 23: Burden of Healthcare Financing on Households .....	70
Table 24: Universal Health Expenditure Indicators .....	71
Table 25: Combined Health and Education Financing Incidence .....	71
Table 26: Income Distribution Pre-fiscal Incidence and Post-fiscal Incidence .....	73

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## **CHAPTER 1      INTRODUCTION**

### **1.1      Research Area**

The unequal distribution of resources within populations has been a cause for concern over the years, especially in view of its persistency despite efforts on the part of governments to minimise the extent of such inequality.

Achieving a pattern of income distribution that is deemed desirable by policymakers and acceptable to society is the objective of a fiscal policy as the policy enables social cohesion, political stability, and the entire society to participate in the overall economic growth notwithstanding the varying levels of contribution from the different groups in society (UNCTAD, 2012:113).

In view of the fact that income inequality impacts on the economy and the people's welfare, addressing it requires intervention from government through various mechanisms. Van der Berg & Moses (2009) identify one such mechanism as the government's budget; they state that the budget is a translation of the government's redistributive policies into monetary terms as it reflects the services that the government provides, to whom the services are provided, how the provision of these services is financed and the impact of the long-term distribution on human capital. There is substantial evidence that high levels of inequality are detrimental to the achievement of macro-economic stability and growth; hence, the need to implement a fiscal policy that promotes the redistribution of resources and supports sustainable economic growth (International Monetary Fund, 2014).

The International Monetary Fund (2014) further recommends that tax and expenditure policies be designed in such a manner that they ensure the balancing of the distributional and efficiency objectives even during periods of fiscal consolidation. Inequality remains an economic challenge for Swaziland despite the several policy reforms that the government has adopted in an effort to redistribute resources. This study reviewed the country's fiscal policy and the extent to which this policy redistributed resources across the population and also assessed whether these policies are progressive.

### **1.2      Problem Statement**

The problem statement is as follows: To measure the redistributive impact of Swaziland's tax and public expenditure policies.

### **1.3 Purpose and Significance of the Research**

According to Christiaensen and Angwafo (2013), significant strides have been observed in Africa's economic growth despite the 2008 financial crisis and the 2011 food crisis; nevertheless high levels of inequality continue to exist, inhibiting the achievement of other socio-economic objectives. This persistent inequality requires governments to develop fiscal policies that will help promote the achievement of objectives that are aimed at improving the welfare of the nations. It is, thus, incumbent on African governments to consider adopting progressive tax policies with minimal impact on the poor and also invest in social spending that will result in greater resource redistribution. According to Haughton & Khandker (2009), incidence analysis helps to determine who bears the burden of taxes and who benefits from government spending, as this information is required in the formulation of a tax and expenditure policy.

The purpose of this study was, to determine whether Swaziland's fiscal policy has been effective in promoting the redistribution of resources in order to reduce income inequality. In addition, the study assessed whether the fiscal policy was aligned with the country's human capital development objectives set out in the National Development Strategy. The study determined the extent to which Swaziland's tax policy supports the redistribution of resources and assessed the extent to which the public expenditure programmes on education and health support the redistribution of resources and, therefore, reduce inequality. The review of the country's tax policy and the public expenditure policy was meant to ascertain the extent to which government's spending supports an equitable distribution of resources. Martinez-Vazquez (2004) stated that, the ability of a country's tax policy is limited in improving income distribution on its own; as it needs to be complemented by a public expenditure policy that includes programmes directed at improving the equitable distribution of resources and providing services that the private markets are failing to provide in an optimal way. Lastly, the study reviewed the combined incidence of the tax and public expenditure policies in order to assess their progressivity and redistributive effect.

Studies have shown that economic growth is important for poverty reduction; Naschold (2002) indicated that high levels of inequality make economic growth less effective in reducing poverty. In order to overcome this effect Naschold (2002) recommends the implementation of policies that promote the redistribution of income as a reduction in inequality is fundamental to poverty reduction and sustainable economic growth. In the year

2000, Millennium Development Goals were developed and Goal No. 1 was to eradicate extreme poverty and hunger; according to United Nations (2015), Sub-Saharan Africa achieved the lowest poverty reduction of 28 percentage points from a poverty rate of 57 per cent in 1990 to a rate of 41 per cent in 2015. The United Nations Economic Commission for Africa (2014) however revealed that, Africa's initial conditions when the Millennium Development Goals were set also had an impact on the progress made by the region as at that time, Africa had the highest level of poverty due to low development, weak infrastructure, conflict, instability and high levels of inequality. In his study Mubila et al. (2012) also learnt that within the African continent, Southern Africa showed the highest level of inequality when compared to the other regions in the continent and Swaziland was one of the top 10 most unequal countries in the region.

Sub-Saharan Africa has been showing positive economic growth in the past decade; this growth has however not led to the desired poverty reduction, United Nations Conference on Trade and Development (2014). United Nations Economic Commission for Africa (2014) also alludes to the fact that high levels of inequality that prevail in Sub-Saharan African countries have impeded the ability of economic growth to reduce poverty. Due to the fact that Swaziland is also still struggling with poverty reduction with a poverty rate of 0.63 as at the last national household survey carried out in 2010, assessing whether Swaziland's fiscal policy reduces inequality also helped determine whether the prevailing inequality could be one of the reasons behind the slow economic growth and low impact on poverty reduction. Sub-Saharan African countries have also been characterised with low human development; UNDP (2015) indicates that Swaziland is ranked 148 out of 188 countries in terms of the Human Development Index (HDI); the country's HDI was 0.541 in 2015, this index places the Swaziland among the low human development countries, the index is however above the Sub-Saharan countries average of 0.523.

Dabla-Norris et al, (2015) refer to the following as some of the side effects of inequality in an economy:

- a. Negative impact on social development for the low income households as it can deprive them from accessing good quality healthcare and education facilities, therefore denying them the ability to accumulate human and physical capital required to participate in productive economic activities;

- b. It lowers the rate of poverty reduction and where economies are exposed to economic shocks with a negative impact on economic growth, a greater proportion of the population becomes vulnerable to poverty; and
- c. It destroys trust and social cohesion among citizens and this usually leads to conflict which in turn discourages investment towards infrastructural development.

The above literature confirms that while it is important to pursue policies and strategies directed towards economic growth and the reduction of poverty, developing a fiscal policy that reduces inequality is also vital to attaining poverty reduction and inclusive economic growth, whose benefits are enjoyed across the population.

Previous studies focused mainly on the country's poverty levels and the amount of funding that government allocates to spending on public policies that have an impact on poverty reduction. There is a lack of studies on Swaziland determining whether the government's fiscal policy is designed in a manner that promotes the redistribution of income and resources across the population hence the need to carry out this study. The previous inequality measure that was determined was based on the Swaziland Household Income and Expenditure Survey for 2000/2001. Based on this survey the Gini coefficient determined using consumption/household expenditure as a welfare measure was 0.51 (CSO 2001). In order to contribute to the work that has already been done regarding inequality and poverty in Swaziland, this study determined the country's progress in reducing its income inequality in 2010 by using the 2010 Household and Expenditure Survey. In addition, the study assessed the extent to which the government of Swaziland was using its fiscal policy to improve the level of inequality in the country. For the purposes of this study, the income recorded by households in the 2010 household survey was assumed to represent income earned from employment as the survey did not require households to reflect their sources of income.

## **1.4 Research Question and Scope**

### **1.4.1 Research Question**

To what extent has the government of Swaziland realised the redistribution of resources through its tax and public expenditure policies?

### **1.4.2 Scope of Research**

Swaziland's main sources of tax revenue includes personal income tax, which is levied on employment income, the general sales tax (GST) which is levied on consumption of goods and services, and the customs and excise revenue from the Southern African Customs Union

(SACU). According to the Swaziland Revenue Authority Annual Report (2012), in the 2009/10 fiscal year the SACU receipts were equivalent to 20.03 per cent of the country's GDP, personal income tax was equivalent to 5.13 per cent and sales tax equivalent to 3.85 per cent. In view of the fact that the latest national household survey was conducted in the 2009/10 financial year, this study mapped the results of this household survey with the government budget for the same financial year and examined the extent to which country's personal income tax, the graded tax, fuel levy and the excise taxes were progressive and had a redistributive effect. "Education and health improve human welfare directly; therefore, making these services broadly available should be a key objective of a country's development strategy" (Etoh-anzah & Tafah, 2009:2). In order to improve the welfare of the nation, Swaziland has also incorporated the wide provision of education and health care services into its key fiscal objectives, hence, the study will focus on the extent to which the government's public expenditure which is directed towards education and health services redistributes resources thus improving the welfare of its citizens.

The provision of health and education services by the government is usually financed through the taxes that the government collects from various sources. However; governments also charge fees to the users of these services and the revenue raised from the user charges is used to supplement the funds that government directs towards the provision of such services. Demery (2000) maintains that, in order for households to benefit from the government subsidies in respect of the provision of education and health facilities, the households must use these facilities; however, they may have to incur out-of-pocket expenses in order to gain access to the facilities despite the fact that the services are state funded. The study also assessed the incidence of out-of-pocket expenses incurred by households and how this affected their ability to access these services and, therefore benefit from government spending on health and education facilities.

## **1.5 Research Assumptions**

Data relating to household income was obtained from the Swaziland's Household Income and Expenditure Survey carried out in 2009/10 by Swaziland's Central Statistics Office. In order to impute the amount of tax incurred by households, data relating to tax rates on income and consumption was obtained from the Swaziland Revenue Authority, while the data relating to the public expenditure programmes was obtained from the national budget estimates together with the actual budget prepared by the Ministry of Finance. In view of the general concerns regarding the integrity of data collected in developing countries, it was assumed for the

purposes of this study that the data that was collected from the sources mentioned is of a generally acceptable standard. A tax incidence analysis generally seeks to determine who bears the burden of a tax levy, the progressivity of the tax and the redistributive capacity of the tax, while a benefit incidence analysis seeks to determine who benefits from public expenditure and whether such public expenditure is targeted at the people who are most in need of it. In view of the fact that the household survey did not include data on the taxes paid by households and the transfer benefits they received the following assumptions were made for the purposes of this research study.

- a. Household income represents the income earned from employment as the survey did not require households to reflect their sources of income.
- b. Income tax is borne by salary or wage earners as it is levied directly on their employment income and, it reduces disposable income;
- c. Indirect taxes (sales tax, fuel levy and excise tax) are borne by households through their consumption of goods and services. It was assumed that the expenditure reported in the survey is inclusive of indirect taxes.
- d. Households also bear the cost of the fuel levy through the use of transport services and, thus, it was assumed that the cost of transport includes the fuel levy.
- e. The Swaziland Household and Expenditure Survey did not provide details of the nature of the education and health expenditure that households incurred. It was, therefore, assumed that the education and health expenditure reported in the survey related to the out-of-pocket expenses that the households incurred in order to gain access to health and education facilities.

## **CHAPTER 2 LITERATURE REVIEW**

### **2.1 Introduction**

According to the International Monetary Fund (2014), every government should have in place a fiscal policy which accurately reflects the government's decisions on how much to spend, which public expenditure programmes to spend on and whether to finance such spending through taxes or borrowing. The literature review analyses the tax and expenditure policies that national governments adopt in order to improve income distribution and realise the poverty alleviation goals. In addition, the review also examines the theories and empirical studies that support the adoption of these policies. The negative effects that the adoption of such policies may have on society are also discussed.

### **2.2 Government Policy and Public Finance**

An important aspect of the theory and practice of public finance is related to conceptualizing and measuring how the revenue and expenditure sides of a government budget affect the distribution of income among households as the equitable distribution of income and improvement of the welfare of society is an important government goal (Martinez-Vazquez, 2004:1).

Taxes represent revenue to government but they also constitute a burden on society as they reduce the taxpayers' real disposable income. This means that it is incumbent on government to have a policy in place that can alleviate this burden, especially for low-income earners, in order to ensure that they are able to meet their basic needs.

### **2.3 Tax Policy and Incidence**

#### **2.3.1 Tax Policy**

Although taxes are one of the main sources of revenue for the government, the International Monetary Fund (2014) indicates that the manner in which the tax policy is designed may also help in achieving redistributive goals although this depends on both the progressivity of income related taxes such as the personal income tax, capital income tax, wealth taxes and the design of the indirect taxes. According to Bird and Zolt (2003), in order to ensure that a country is able to benefit from its tax policy, it is essential that the policy is designed in such a manner that it minimises the loss of revenue through tax evasion or tax avoidance while the administrative capacity required to collect the tax revenue is also important.

### 2.3.2 Properties of a Good Tax

According to Pirie (2013), Adam Smith's maxims of taxation are widely accepted as the acceptable standards of a good tax despite the fact that they do not carry any force of law with regard to adherence to them. Pirie (2013) summarised these maxims as follows:

- a. **Equity** – a good tax should promote a fair or reasonable distribution of income.
- b. **Economic efficiency** – imposed taxes should have minimal distortions on the choices made by taxpayer.
- c. **Administrative efficiency** – the costs associated with the collection of taxes and ensuring compliance with the tax laws should be kept as low as possible.
- d. **Flexibility** – requires that a tax system should be able to adapt to changes in economic circumstances and facilitate stability and economic growth.

These properties continue to influence tax policy designs. The realisation of redistributive goals is said to be made possible through the use of progressive taxes as a progressive tax design seeks to balance equity and efficiency properties by collecting a greater proportion of revenue from the rich relative to the poor while, at the same time, trying to minimise any distortionary effects (Duncan & Peter 2008).

### 2.3.3 Optimal Tax

Frank Ramsey pioneered the optimal tax theory in 1927; the premise for the theory was that the tax system should seek to maximize the social welfare function, (Mankiw et al. 2009). Steenekamp (2005) further describes optimal taxation as efforts to design a system that improves efficiency by minimizing the excess burden in order to achieve a more equitable distribution of income. In 1971, James Mirrlees made his contribution to the optimal tax theory literature but added the following as pertinent issues to consider when designing the optimal tax policy; heterogeneity amongst the tax payers which provides for differences in the tax payers' ability to earn income, standard labour behavior as a response to taxation and budget constraints that the government may face, (Mankiw et al. 2009). Although Mirrlees' optimal tax proposal has been criticized for being highly complex, Mankiw et al. (2009) have also stated that it has become a dominant approach for theorists as it formalized the trade-off between equality and efficiency as the government seeks to redistribute income and ease the tax burden on the low income earners by taxing those with a high ability to earn income at a higher rate than those with a low ability and also ensure that those with a high ability do not pretend to be of low ability and therefore make the tax system inefficient. According to Heady (1993) the optimal tax theories focus mainly on personal income tax and commodity taxes; he



indicates that Mirrlees optimal income tax theory was concerned with having a marginal tax that varies with a change in income while Frank Ramsey's optimal commodities tax theory was concerned with the levying of taxes on commodities in order to raise a given level of revenue with the least possible distortionary effect.

The tax theories mentioned above have influenced various tax reforms whose main focus is the redistribution of resources and enhancement of the welfare of its citizens. Mirrlees' theory has mainly influenced personal income tax design, as various governments have adopted personal income tax policies aimed at levying higher taxes on individuals with a higher ability to pay by introducing different tax rates for different income levels. Ramsey's theory has influenced consumption taxes as governments generate indirect taxes by levying these taxes on the consumption of goods and services by individuals. In determining its tax base the government has to identify the people from whom it will eventually collect the taxes, Bird & Zolt (2003) indicate that a distinction has to be made between people who have to pay the tax and those who bear the economic incidence or burden of the tax. Bird & Zolt (2003) further stated that, only people bear the tax burden as they are taxed in their roles as consumers, producers, or factor suppliers. An example that is usually given to justify why the incidence of tax lies on people is the burden of the corporate taxes; although the tax is levied on the corporation the burden may lie on the shareholders through a reduction in profits, employees through the payment of minimal wages or passed on to consumers through price increases (Felix & Hines, 2009).

#### **2.3.4 Tax Incidence**

The tax incidence theory has its foundations in the 19th century when Seligman (1892) described two important processes, namely, the tax shifting process and the tax incidence process; wherein tax shifting relates to the process whereby the person on whom the tax is imposed transfers the tax to another person who then bears the burden of paying the shifted tax. In his work Seligman (1892) recommended that an analysis of the tax shifting process should be used as an aid to determine the behaviour of society in respect of tax policies and also to assess the fairness of the tax system. Taxes reduce people's disposable income and may lead people to change their consumption preferences by seeking goods that can be substituted for those that are heavily taxed. However, a progressive tax system helps to reallocate resources and reduce inequality by levying higher taxes on the wealthy and imposing minimal taxes on basic commodities. According to Bird & Zolt (2003), efforts to reduce inequality through taxation have had a moderate success in developed countries but

have been ineffective in developing countries. Bird & Zolt (2003) attribute this is to the ability of wealthier people to find ways of shifting some of their tax burden in order to limit their tax liability. The redistribution of resources and the reduction of income inequality may be realised through both the tax and the expenditure policies of a country and, hence, the need for the government to design tax and public expenditure policies that complement each other and are directed towards the social welfare of its people.

## **2.4 Public Expenditure Policy and Incidence**

### **2.4.1 Public Expenditure Policy**

According to Gildenhuys (1988), the role of government is based on four principles, one of which is ensuring the welfare of its citizens that is the social welfare state. Lustig (2011) indicates that the main objectives of the welfare state are to support the minimum living standard through the reduction of poverty, social protection, and income smoothing and ensuring an equal distribution of resources. In order to achieve the welfare state objectives government relies on the public expenditure policies as they have generally been found to achieve a better redistribution of resources than taxes.

An analysis of the tax incidence is important as taxes represent a source of finance for public expenditure programmes and, thus, a country's tax policy may have a significant impact on the decisions made by the government to finance such programmes. Martinez-Vazquez (2004) states that government expenditure policies are usually implemented to improve the government's efficiency in enabling the equitable distribution of resources; through the public provision of certain goods and services that the private markets fail to provide optimally. Schwabish et al. (2004) state that public expenditure programmes that are found to have a redistributive impact are usually those that involve the provision or subsidisation of private goods or services by the government through cash and near cash transfers with the intention of having a direct, positive impact on the welfare of the people. According to Niehues (2010), social expenditure programmes are designed to redistribute resources and reduce income inequality although behavioural disincentive effects may sometimes offset their impact. Niehues (2010) states that, high levels of unemployment benefits may provide little incentive to seek employment and this may, in turn, contribute to another economic problem of persistent high unemployment levels.

Despite the role of government expenditure in reducing inequality and promoting economic growth, research has shown that social capital is also important in economic growth. Knack

and Keefer (1997) indicate that trust within societies promotes a strong incentive amongst citizens to innovate and accumulate physical and human capital which in turn can yield higher returns therefore increasing the income per capita. Gärtner & Prado (2012) are also of the view that the level of trust is negatively correlated with inequality, such that low levels of trust are accompanied by high levels of inequality. According to Putnam (1995) as cited in Gould & Hijzen (2017) “trust is a key component that enables participants to act together more effectively to pursue shared objectives”. This view confirms the importance of social cohesion in promoting economic growth. Gould & Hijzen (2017) also indicate that in order to effectively implement public policy, trust in the government by the citizens is important as lack of trust reduces the credibility of public policy.

While governments can use the fiscal policy to redistribute resources, reduce the level of inequality and promote economic growth, trust in the government and its policies is important as people tend to be more supportive of social policies when they trust the government (Gärtner & Prado 2012).

#### **2.4.2 Public Expenditure Incidence**

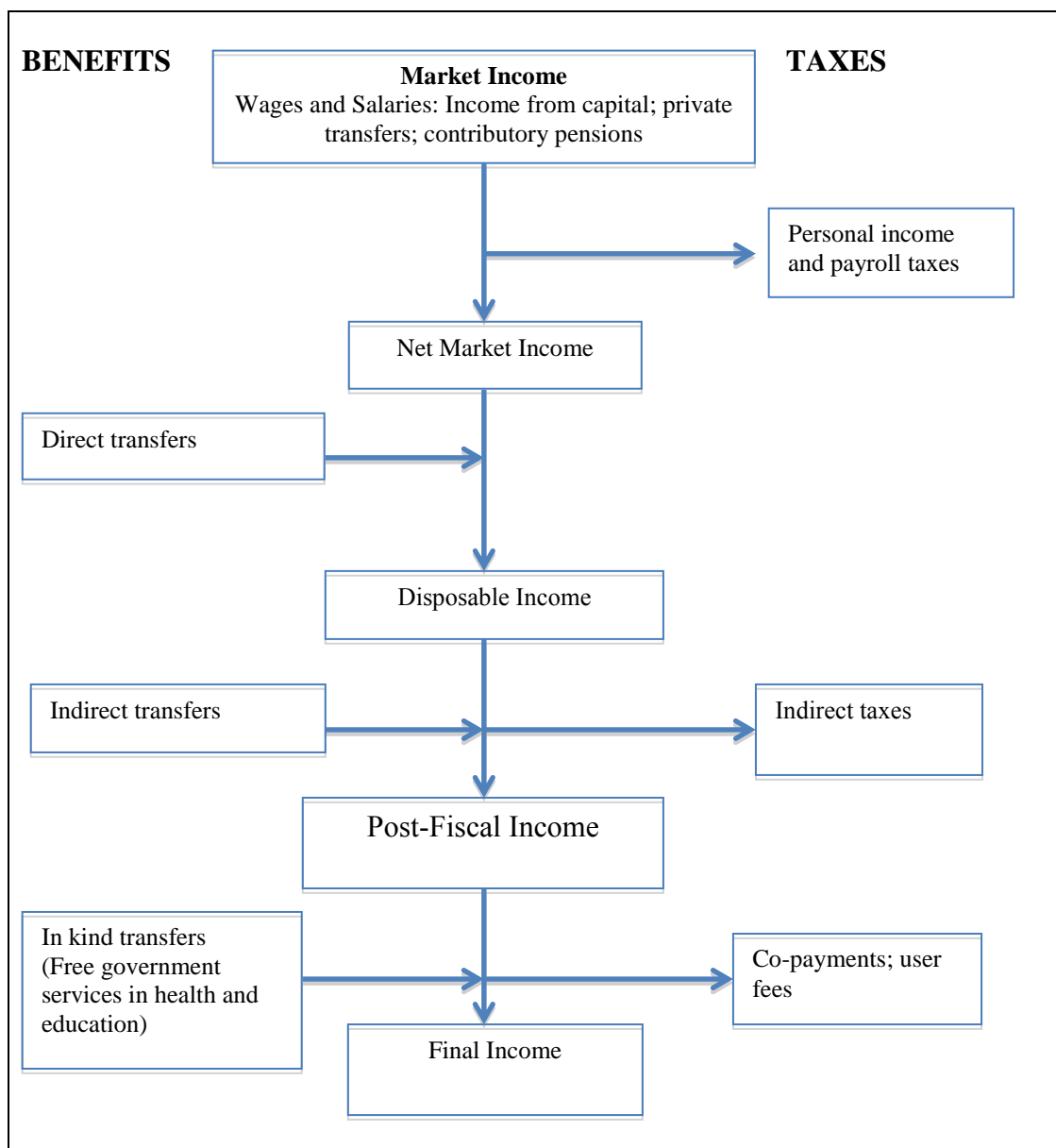
The public expenditure incidence is meant to determine who benefits from the government expenditure programmes that are intended to improve the wellbeing of its society. According to Martinez-Vazquez (2004), analysing the public expenditure incidence is directly concerned with public expenditure policies whose main goal is to improve the equitable distribution of resources. According to Niehues (2010), such programmes may be divided into social insurance benefits and social assistance benefits in terms of which social assistance benefits are meant either to sustain the livelihoods of low-income households or to help people who meet certain criteria such as disability or old age, while social insurance benefits are intended to enable an individual to maintain their income in the face of adverse risks such as the loss of employment or illness. Although social spending programmes are designed to improve the livelihoods of people and reduce inequality, they have also been criticised for having certain undesired consequences. In their paper, Beauiler & Caplan (2002) stated that welfare programmes sometimes harm the people they are intended to help and therefore recommend that the undesired behavioural consequences be taken into consideration when designing these programs. They cited the following as some of the adverse effects of welfare programmes:

- a. Giving money to the poor through social welfare programmes tends to encourage people not to seek employment and acquire the skills that may help them to rise above poverty.
- b. Easy access to welfare programmes encourages thinking only about the present and not planning for the future as well as irresponsibility on the part of the recipients.

Martinez-Vazquez (2004) has recommended the following two approaches that may be used to estimate the public expenditure incidence, namely, the benefit incidence approach, and the behavioural approach. The benefit incidence approach determines the amount by which a household's income would have to be increased by if the household were to bear the full cost of services, while the behavioural approach uses econometric models to estimate the behavioural demands of publicly provided private goods in order to assess the people's willingness to pay for these goods and services. These two approaches can be used to complement each other and may also be helpful in addressing Beaulier & Caplan's (2002) criticisms of social spending.

### **2.4.3 Fiscal Incidence**

According to Lustig (2011), government's main objectives include the promotion of an acceptable minimum standard of living for all, support of a minimum level of human capital accumulation and the reduction of inequality in society. Gupta et al. (1998) are of the opinion that the fiscal policy is the most direct tool that a government can use to redistribute resources, both in the long and the short term. Martinez-Vazquez (2004) further states that when assessing the distributive ability of a policy, governments should carry out a simultaneous assessment of both the tax and public expenditure policy, as the overall fiscal policy may be progressive as a result of a progressive public expenditure policy despite the tax policy being regressive. According to the World Bank (2014), a fiscal incidence analysis assesses how the tax policy and public spending policy redistribute income among people in different deciles. Etoh-anzah & Tafah (2014) further indicate that a fiscal incidence review shows the difference between the benefits received by a household through the consumption of publicly provided goods and the reduction in income or loss of consumption as a result of the tax incurred by the household. Lustig (2011) described the fiscal incidence analysis using figure 1 below;



**Figure 1: Income Definition and Fiscal Incidence Analysis**  
*Source: Lustig (2011)*

#### **2.4.4 Fiscal Incidence Analysis**

Bastagli et al. (2012) observed that although the fiscal policies in advanced economies have made a significant contribution to the reduction of inequality, in developing economies the policies have done little to redistribute income due to the lack of sufficient resources with which to finance redistributive social spending programmes and an inability to raise sufficient revenues in the developing economies.

According to Tanzi & Zee (2000), these challenges are caused by the narrow income tax base in developing economies, which is due to the fact that the majority of people are employed in informal establishments and are paid irregular wages which are paid in cash and usually not recorded; these issues limit government's ability to raise revenues through income taxes and consumption taxes as these wages are spent at informal retailers. Bastagli et al. (2012) acknowledge the limited ability of developing economies to deploy fiscal policies that redistribute income and they recommend the following as some of the strategies that can be implemented to improve the ability of developing economies to use their fiscal policies to reduce inequality:

- a. Strengthening government's capabilities to raise more revenue in order to increase spending on public expenditure programmes that redistribute resources.
- b. Broadening the tax base while not increasing tax rates, reducing tax exemptions, closing tax loopholes and improving tax compliance.
- c. Implementing targeted social expenditure programmes as opposed to general programmes such as universal price subsidies which are costly for government and which have proved to be inefficient.

#### **2.4.5 Fiscal Incidence and Inequality**

In the past centuries, inequality was viewed as necessary for economic growth; however, recent developments have shown that inequality hinders growth and does not promote human development hence, the need to reduce such inequality for ethical reasons and the unwarranted income disparities (Milanovic 2011).

According to Martin & Förster (2012), research on inequality carried out in OECD countries over the past 30 years has revealed that despite the economic growth that has been observed both in the OECD countries and emerging economies, the level of inequality remains high as the average income of the richest 10 per cent of the population is nine times that of the poor. Although the causes of inequality differ in the developing economies and in advanced

economies; OECD (2011), found the following to be some of the main causes of inequality in all economies:

- a. Globalisation whereby the integration of OECD countries into the world's economy and the rapid improvement in technology promoted economic growth but also brought greater rewards for highly skilled workers compared to low skilled workers. This led to a huge gap between the earnings of the highly skilled workers and the low skilled workers.
- b. Technological changes, as these changes have led to an increased demand for highly skilled workers. However, society has not been able to produce these workers in the numbers that they are required and this has led to a significant increase in their wages relative to the wages of their less skilled counterparts.

Despite the fact that the above causes of inequality have affected both developed and developing economies, the UNCTAD (2012) indicated that the fiscal policies adopted in developing economies have not reduced inequality as these economies also lost tariff revenues as a result of trade liberalisation and globalisation. This loss of revenues meant that the governments were no longer in a position to finance some of their development expenditure and their social programmes. The UNCTAD (2012) also alluded to the fact that the inequality situation in developing economies was aggravated by the restriction of official development assistance to these countries and that this has led to the introduction of user fees to access public services. According to Ram (2014), assessing the impact of secular economic growth is important as it also contributes to the allocation of resources among citizens.

According Milanovic (2011) relevant education helps reduce the inequality gap between skilled and unskilled labourers however widespread education has been difficult to achieve as it requires a relatively even income distribution. "Various studies in different countries have revealed that a government's unwillingness or inability to provide basic education for its citizens is associated with poor economic outcomes and has a negative impact on the country's ability to participate in modern economic activity which can promote economic growth" (Frieden 2001:37).

#### **2.4.6 Measuring Fiscal Incidence**

In their report, Etoh-anzah&Tafah (2009) indicate that a combined fiscal incidence measurement is important for determining the distributional ability of the public expenditure programmes, together with the tax policies developed in order to raise the revenue required to finance these programmes, as an increase in taxes with the aim of increasing public expenditure may result in the overall fiscal policy becoming regressive Sahn & Younger (1999), indicate that household surveys carried out in various developing African countries revealed that the levels of inequality in these countries remained high despite the economic growth that had been observed in these countries; and recommended the implementation of policies with a strong focus on human capital development together with tax and public expenditure reforms that enable adequate redistribution of resources.

The other two important concepts that are inherent in the assessment of a fiscal incidence analysis include the progressivity and distributional impact of both the tax policies and the public expenditure programmes.

The progressivity principle is based on vertical equity which requires that differences in people's circumstances should be appropriately taken into consideration in the designing and implementation of a public policy, in terms of tax it is accepted that the tax burden should be distributed in terms of the ability to pay indicator including the provision of tax structures that exempt people of a certain income level from paying tax (Essama-Nssah 2008:10).

Essama-Nssah (2008) further states that the redistributive impact is based on the ability of the public policy to restore the efficient allocation of resources when market failure leads to pareto-inefficient outcomes or leaves members of society with a living standard that is unacceptably low on the basis of prevailing norms.

Redistribution through the tax policy is based on the vertical equity principle and is considered to be redistributive if it eases the tax burden on low-income households. With regard to public expenditure policies, redistribution lies in the ability of such policies to meet the needs of low-income households by ensuring that the public expenditure programmes are easily accessible to these households and by also improving their standard of living. The redistributive impact is usually measured in terms of the Reynolds-Smolensky indices (Essama-Nssah 2008). Thus, analysing both the incidence of the tax policy and the public



expenditure policy is useful in determining the extent to which these policies redistribute resources and improve the well-being of society.

## **2.5 Progressivity and Distributive Impact**

### **2.5.1 Tax Progressivity and Distributive ability**

According to Martinez-Vazquez (2004), progressivity is a key concept in a fiscal incidence analysis as it is generally believed that a progressive tax structure reduces inequality. Taxes that are levied on income have an impact on the disposable income of households, hence, a progressive tax structure is expected to collect more taxes from the rich than the poor, thus minimising the reduction of the disposable income of the poor (Nutter et al. 2014). However, Duncan & Peter (2008) observe that the efforts of governments to raise more revenue from the rich through progressive taxes have been counteracted by behavioural responses on the part of the rich as they have been found to be more responsive to changes in taxes and devise means to hide their income.

Although governments have to make a trade-off between efficiency and equity, tax progressivity continues to be used as a fiscal incidence measure. Although an income redistribution objective is inherent in a country's tax policy, Prasad (2008) recommends that, when using the tax instrument for redistribution purposes, the way in which people are likely to behave should be taken into consideration in order to minimise distortions in the labour market and/or people's incentive to work, invest and create wealth. Prasad (2008) further recommends combining different taxes to promote the overall progressivity of the tax system because various taxes have different impacts on the redistribution of resources. According to the UNCTAD (2012), most developed and developing economies raise a significant proportion of their overall revenue from income taxes, however progressive tax structures contain several exemptions and allowances that lead to the loss of revenue that is required by governments to finance public expenditure. The redistributive effect of a tax policy depends on the extent to which the tax burden may be shifted; shifting of the tax burden also depends on the alternatives available to the parties in a taxed transaction, this effectively means that one party is less likely to bear the tax burden when the party has other alternatives to what is being taxed (Essama-Nssah 2008). Thus, the distribution of resources through the tax policy depends on the reaction of the taxpayers to the tax policies.

Steinmo & Bird (2003) conducted a review of the tax reforms in OECD countries and observed that the reforms that had been undertaken had led to the overall tax systems becoming regressive as a result of the reduction in income and capital taxes and the increases in consumption taxes, which had led to a shift in the tax burden from the rich households to the poor households. Tax reforms in many developed economies have, in general, benefited high income households while the continuous increases in consumption taxes have led to the tax systems becoming less progressive or even regressive; this has also contributed to slow economic growth and high unemployment levels, (UNCTAD 2012). A study by Chu et al. (2000) found that, on the whole, developed economies have managed to achieve redistribution of resources through both the tax system and social transfer policies but in developing countries, redistribution through taxes was found to be negligible as the tax systems were made up primarily of consumption taxes which are often regressive.

### **2.5.2 Public Expenditure Progressivity and Redistributive Ability**

Public expenditure refers to the transfer of funds from the government to the people and it may be expected to increase the disposable income of the citizens or provide public services to minimise the burden on consumers, Obst (2013). According to Prasad (2008), the redistribution of resources may be effected through social transfer programmes and social insurance programmes. Prasad (2008) further stated that social transfer programmes are considered to be the more progressive and redistributive as they are directly targeted at the poor, while social insurance programmes have been found to be regressive, especially in the developing economies, as they exclude people in the informal sector and contributions to such schemes tend to reduce current disposable income.

There is strong support for the subsidisation of primary education; as it is believed to be more progressive because there is a notion that the ability to read and write is critical for sustaining people's welfare and has a positive effect on economic growth (Castro-Leal et al. 1999). On the other hand, higher level education subsidies have been found to be less progressive than primary education subsidies, but the subsidies are justified on the basis of the perceived external effects of human capital accumulation (Prasad 2008). Adeolu (2010) indicated that studies that have been carried out in various economies revealed that the progressivity of public expenditure programmes is dependent on the accessibility of these programmes to the people especially the low income households. The redistributive and progressive impact of a

public expenditure programme may also be assessed on the extent to which the programme reaches the targeted people and, hence, the concepts of targeting and progressivity are commonly used in a benefit incidence analysis (Van der Berg & Moses 2009). According to Chu et al. (2000), government spending is considered to be well targeted if the share of the benefits directed to the poorer households is larger than the share of benefits spent on the richer households.

Although funding for education and health programmes is continuing to increase, the extent of the progressivity of such funding differs in various countries. In their study, Chu et al. (2000) reviewed the redistributive impact of tax and public expenditure policies in various countries during the 1990s. They observed that education spending was progressive in 55 of the countries that they surveyed although poor targeting was observed in sub-Saharan Africa, the Middle-East and transition economies, while the Asian programmes were observed to be the most progressive as they were well targeted. Chu et al. (2000) also observed that primary education expenditure was the most progressive, followed by secondary education expenditure, tertiary education spending was, however, the least progressive in all the regions. The study also observed that in sub-Saharan Africa the poorest quintile received 4.5 per cent of the tertiary education spending while the richest quintile received 59 per cent of the spending. Cubero & Vladkova (2010) reviewed the redistributive impact of the tax and public expenditure policies in Central American countries between 1995 and 2003. They observed that primary education funding was the most progressive, while secondary education funding followed an inverted U-shaped trend and tertiary education funding was regressive.

Chu et al. (2000) also surveyed the benefit incidence of government health spending in 38 countries; health spending was found to be generally progressive in all the countries but was well targeted in 21 countries only, Sub-Saharan Africa's health spending was poorly targeted, whereas in the Asian and Latin American countries the poorest quintile received between one and a half and three times more than the richest quintiles. Cubero & Vladkova (2010) observed that in the Central American countries, 70 per cent of government spending was directed at health spending on the three bottom quintiles, with 25 per cent of this being directed at the poorest quintile.

Van de Berg (2009) reviewed the fiscal incidence of social spending in South Africa. He observed that the government expenditure on education in South Africa was progressive and

very well targeted with regard to primary and secondary education and tertiary education spending was regressive, health spending was also well targeted and benefited the poor. Van de Berg (2009) attributes the increased health spending to the fact that affluent people tend to opt out of the public health system for a variety of reasons including poor quality services and this therefore allows the poor to receive a larger share of the subsidised health benefits than may otherwise have been the case. The budget allocations to the various levels of service, that is, hospital and non-hospital care and the rate of usage of these facilities by poor households, play an important role in understanding why health spending may be poorly targeted. Castro-Leal et al (1999) observed that in nine African countries there was a high allocation of the health care budget to hospital-based services than primary health care which is mostly used by the poor.

### **2.5.3 Financing of Public Expenditure**

In order for government to incur public expenditure on health and education facilities and other facilities, government must have sufficient funding at its disposal to provide for these facilities. Although taxes are the major source of government revenue, government also charges user fees that are then used to fund the provision of these services. There has been much discussion on the impact of these user fees on inequality and the extent to which the user fees may create a barrier to the poorer households accessing the state facilities and, therefore, benefiting from the government spending on such facilities. According to Bird & Zolt (2003), a scarcity of financial resources makes it difficult for governments to provide public services efficiently hence, the need to charge user fees to help improve the efficiency with which government may provide public services. In assessing the burden of health and education financing on households, it is important to compare the amount that households incur in accessing these services with their ability to pay for such services, (O'Donnell et al. 2008). The payment of the user fees is deemed to be progressive if the richer households contribute a higher proportion of their income than the poor households, regressive if the poor pay a higher proportion of their income than the richer households and proportional if everyone contributes the same proportion of their income to the financing of the services (Mtei & Borghi 2012). According to Lustig (2011), the co-payments/user fees incurred by households to access public facilities affect the households' final income as these fees must be deducted from the households' disposable income.

#### **a. Education Out-of-Pocket Expenses/User Fees**

Governments generally take a leading role in the provision of education because of the strong, positive social effects of education on the reduction of inequality and poverty. In their report, OXFAM (2014) highlighted the importance of the universal provision of public services like education and health and the positive impact that this has on the fight against inequality. According to the United Nations Economic Commission for Africa (2014), at the time when the Millennium Development Goals (MDGs) were developed, education conditions in Africa were among the worst in the world, both in terms of structure and quality. The United Nations Economic Commission for Africa (2014) states that it is these adverse conditions that contributed to the development of MDG 2 which relates to the achievement of universal education for all. Several progress reports monitoring the achievement of the MDGs by member states have shown that the greatest challenge in achieving MDG 2 has been the high level of drop-outs or non-attendance by children from low income households as a result of their inability to pay either school fees or the other out-of-pocket expenses associated with sending children to school.

Tiongson (2010) carried out a study on the distributional impact of various education reforms in different countries. He reviewed both the expenditure reforms relating to governments' decisions to restructure their education spending by reallocating more funds to primary education than to higher education and the financing reforms which examined the impact of the removal of user fees on enrolment rates and the quality of education provided. Tiongson (2010) observed that in several countries, such as Botswana, Malawi, Uganda, and Kenya, the removal of user fees had led to an improvement in enrolment rates especially among the poor households; however, the quality of education had deteriorated as a result of the increase in the pupil–teacher ratio.

According to Watt & Rowden (2002), if judged according to the ability-to-pay principle, the introduction of user fees restricts access to public services, limits the use of the public services by low-income households, and widens the inequality gap. Education user fees may be cited as the main reason for the non-completion of formal education by children from poor households in developing economies. However, Hillman & Jenkner (2004) indicate that the abolition of education user fees may not always be a solution, as in other cases user fees may help improve the quality of education provided and this may, in turn, lead to academic and

other social improvements for the people receiving the education; such improvements may then encourage parents to send their children to school despite having to incur the necessary expenses. Kattan & Burnett (2004) state that in cases where user fees make a contribution to the quality of education and the upkeep of facilities, their abolition may have undesired consequences. They recommend that when deciding to abolish user fees, governments should increase spending on education in order to replace the loss of revenue from user fees in order to also prevent the deterioration in the quality of education.

#### **b. Health Out of Pocket Expenses/User Fees**

According to Ataguba & Akazili (2010), health care financing is currently receiving significant attention at the policy level in both developing and developed economies. It would appear that the major issue is how governments can raise sufficient resources to finance the health care needs of their citizens. The equitable financing of health care is in line with the achievement of universal health care coverage. According to the World Health Organisation (2010), governments need to ensure that their health care financing systems allow for people to access all types of health services without incurring financial hardships.

Health care financing can also help redistribute resources. This redistribution may either be vertical or horizontal, where vertical redistribution occurs when health contributions are unequally related to the ability to pay and horizontal redistribution occurs when people with the same ability to pay do not make equal contributions or payments towards healthcare (O'Donnell et al. 2008). In order to implement a health financing system that is capable of redistributing resources efficiently, governments have to identify the sources of finance that they have at their disposal. Macha et al. (2012) identified the following as sources of health finance for the governments in Ghana, Tanzania and South Africa, namely, general taxes, out-of-pocket payments (user fees) and health insurance. However, they observed that out-of-pocket expenses were regressive in all these countries; taxes were progressive, while health insurance contributions were progressive for the formal sectors in all the countries but regressive for the informal sectors in all the countries. Evans (2012) recommends that in order to achieve the equitable distribution of health care financing while maintaining financial risk protection, there should be a reduction of out-of-pocket payments at the point of service and an increase in the compulsory prepayment of health expenses through insurance or taxes. Evans (2012) further recommends that the poor people who are not able to afford the insurance contributions should be subsidised.

The universal health coverage principle advocates that governments implement progressive health financing systems that allow for the richest households to contribute a higher proportion of their income to health care financing compared to poor households (World Health Organisation 2010). In other words, when households have been grouped according to welfare measure either income or expenditure the proportion of health financing contributions to the welfare measure should increase when moving from the poorest decile (quintile) to the richest decile. According to O'Donnell et al. (2008), analysing the progressivity of health care payments is intended to determine the distribution of the economic burden of health care financing on households.

The World Health Organisation (2010) advocates for a health finance system that allows for the sharing of costs in order to minimise the financial risks associated with health financing. The World Health Organisation (2010) further recommends the pooling of resources/health insurance financing in terms of which the cost of health care is borne by all the members of the pool with contributions to the pool being made periodically prior to illness occurring. O'Donnell et al. (2008) also state that a wider redistribution through healthcare financing may also be achieved if the payments towards healthcare financing are compulsory and do not depend on usage as voluntary contributions do not redistribute resources as a result of the fact that people pay for the services as and when they need to use them. Although out-of-pocket expenses may be regressive and discourage the use of health services by the poor households, Macha et al. (2012) observed that the health insurance schemes may also be regressive if they are not designed in a manner that renders them affordable to the poor households; In Ghana and Tanzania the health care insurance premiums were found to be regressive for the informal sector but were still preferred by most to out-of-pocket expenses while, in South Africa, health insurance was provided by the private sector and was, therefore, mainly accessible to the well off in society.

A progressive health care financing system is important if countries are to achieve universal health coverage. This may, however, be difficult for developing economies to achieve due to the limited resources at the disposal of the governments in these economies. Stuckler et al. (2010) are of the opinion that both the low GDP and the poverty in developing economies may be a barrier to the implementation of progressive health care financing and the achievement of universal health coverage. Stuckler et al (2010) however, qualify these

observations by indicating that political commitment through a legal mandate and democratic structures contributes to an increase in the allocation of resources for health financing either through taxes or subsidies or by exempting poor households from the payment of user fees or health insurance premiums. Macha et al. (2012) also observed that the quality of the health services offered in public health facilities and the ease of access to such facilities have a significant impact on the willingness of the people to finance the provision of these services either through membership of a health insurance scheme or out-of-pocket expenses. Regular drug shortages, a lack of functional equipment and the distances that people have to travel to access the health facilities also have an impact on the people's willingness to finance the health services (Macha et al. 2012).

Usage of public health facilities by households is also affected by the households' ability to pay for these services either through user fees or health insurance contributions. A regressive health financing system may, therefore, limit the use of public health facilities by the poor households and this will result in the health facilities being used primarily by the richer households and thus the public health subsidy will benefit the rich households more than the poor.

## **2.6 Conclusion**

The literature showed that although a country's tax policy may be designed to enable the government to collect the revenue required to finance public expenditure, it may also be designed in a manner that enables the government to redistribute resources from the rich to the poor. A tax policy that allows for the redistribution of resources is said to be progressive. Inherent in a progressive tax is the equity and efficiency properties of a good tax; as such a tax promotes a fair distribution of income while also effecting minimal distortions of the taxpayers' choices.

The literature review further indicated that wider redistribution may be achieved through a redistributive tax policy combined with a redistributive public expenditure policy, where a public expenditure policy is considered to be progressive if the poorer households receive a higher benefit compared to that received by the rich households. Progressive tax policies have however been found to have a minimal redistributive impact compared to public expenditure policies.



The literature also indicated that for a government to assess the effectiveness of its fiscal policy, that is, the tax and public expenditure policy, it is important that each policy is not analysed in isolation from the other as a decision to increase public expenditure requires the government to assess whether it has sufficient financial resources to support such an increase. If the tax and public expenditure policies are considered in isolation the government runs the risk of increasing the tax burden in order to finance public expenditure and this may in turn lead to a regressive fiscal policy. On the other hand if the government decides to reduce the tax rates to ease the burden on the low income households, it runs the risk of not having sufficient resources with which to finance public expenditure and this may in turn have adverse consequences for poor households.

There has been increased support worldwide for governments to improve their expenditure on health and education spending as investment in the citizens' education and health has been found to have a direct positive impact on human development. The call for an increase in expenditure on health and education is also supported by MDG 2 and the goal to achieve universal health coverage. It emerged from the literature review that achieving universal health coverage is underpinned by the need to ensure that there is an equitable financing of health care facilities and services such that even the poor households may access the public health services without incurring financial hardship. MDG 2 advocates the provision of free primary education to enable poor households to have access to primary education facilities. The provision of free primary education and universal health coverage is also intended to ease the burden of financing the provision of these services through the payment of user fees by households.

The literature review also indicated that through its fiscal policy, a government may enhance the well-being of its society. However, this may be difficult in cases where the government has limited revenue-generating resources and depends primarily on tax as a source of revenue. This is normally the situation in most developing economies where governments' efforts to increase public expenditure are limited by the narrow tax base. This narrow tax base is the result of the fact that most people are employed in the informal sector and do not pay tax, while most of their spending is also in the informal sector where government does not collect any taxes. This also indicates that a government's ability to redistribute resources through its fiscal policy is, to a large extent, dependant on the government's capacity to generate sufficient revenue without increasing both the tax burden and the user fees burden.

Limitations in the government's revenue-generating resources mean that the government will be forced to restructure its expenditure side of the budget and direct more resources to the productive growth-enhancing expenditure that also has a positive impact on human development.

## **CHAPTER 3                      RESEARCH METHODOLOGY**

In determining the impact of tax policies and public expenditure programmes on improving the wellbeing of society, it is essential to determine the progressivity and redistributive effect of these policies and programmes. A tax policy is considered to be progressive if it provides for the collection of more revenues from the rich people than from the lower income or poor people (Nutter et al. 2014), while a public expenditure policy is deemed to be progressive if the share of benefits received by the low-income households is higher than the share received by the high-income households (Adeolu & Von Humbolt 2005). The redistributive effect of a tax policy tends to be limited by the excess burdens or efficiency losses associated with a highly progressive policy, while the redistributive effect of a public expenditure policy depends on how well targeted the public expenditure programmes are (Martinez-Vazquez 2004).

### **3.1      Swaziland's Fiscal Policy Toolkit**

A tax incidence analysis reviews the impact of both the direct and indirect taxes on society and in order to determine the fairness of the entire tax system it is important to consider the economic incidence of taxation (Bird & Zolt 2003). The government of Swaziland derives over two-thirds of its revenue from its tax system. The Swaziland Revenue Authority (2010) reported that during the 2009/10 financial year, 57.32 per cent of the tax revenue was generated from the customs and excise duties through the Southern African Customs Union (SACU) income transfers, 21 per cent from corporate taxes, 14.68 per cent from the personal income tax deducted from salaries or wages, while 11.01 per cent was generated from the sales tax. However, the 2014/15 financial year budget revealed that customs and excise duties through the SACU receipts had declined to 50.9 per cent of the tax revenue while revenue from corporate taxes had declined to 7.12 per cent; personal income tax revenue had also declined to 12.6 per cent and value-added-tax revenue to 12.1 per cent. The tax incidence analysis, therefore, focused on these taxes and other taxes that could be imputed to households such as the fuel levy.

The government of Swaziland is also committed to human capital development through its public expenditure which is directed at improving the welfare of the people. The government's human development goals were articulated in the National Development Strategy Paper, which was launched in 1997, and are intended to guide the government in developing policies that will provide for the equitable allocation of resources. The

government continues to take these goals into consideration every year and, in the 2009/2010 financial year, health and education expenditure made up 21.2 per cent of the public expenditure, in the 2011/2012 financial year it had been increased to 24.2 per cent and in the 2014/2015 financial year the expenditure had increased to 25.7 per cent of the public expenditure.

According to Etoh-anzah & Tafah (2014), public expenditures generate the transfer of resources to society; health and education expenditure programmes have been proven to have long-term positive effects on human capital development and poverty reduction. Demery (2000) also shares similar views and highlights the following as important reasons for assessing the government's ability to redistribute resources through health and education spending:

- a. Health and education are important services for lifting people out of poverty, improving the health status of the poor and providing the poor with the relevant knowledge and skills makes a significant contribution to alleviating poverty.
- b. Both services yield important external benefits, especially at the primary level.
- c. Governments devote a significant proportion of their budgets to the provision of health and education.

### **3.2 Data Collection, Frequency and Choice of Data**

The purpose of this study was to determine the extent to which the government of Swaziland has been able to redistribute resources and minimise the inequality gap through its tax and public expenditure policies. The study used secondary data from the Swaziland Household Income and Expenditure Survey of 2010 (SHIES) data from the National Budget and data from the Swaziland Revenue Authority. In *The Commitment to Equity Assessment Handbook*, Lustig (2011) indicated that the absence of data on the payment of taxes and transfer benefits from the household surveys requires that a detailed description of how each component used in the incidence analysis was determined be done. The handbook recommends adopting a method based on a country's institutional structures and the available data. Lustig & Higgins (2013) recommend several methods that may be used for allocating taxes and transfers, one such method is the imputation method; this method uses data from the household survey together with information from the public accounts and statutory provisions. The imputation method was adopted for this study.

Data relating to the tax policy and applicable tax rates was collected from the Swaziland Revenue Authority, while data relating to the public expenditure programmes was obtained from the 2009/2010 budget speech and the budget estimate book for a detailed breakdown of the budget items. In order to analyse the impact of both direct and indirect taxes, data relating to the income and expenditure of households was obtained from the SHIES Survey of 2010. The SHIES survey does not, however, collect data on the taxes that households pay. Accordingly, it was necessary to impute the statutory rates that are prescribed in the different legislations to the households' income for the purposes of direct taxes while, for the purposes of the indirect taxes, the statutory rates were also imputed to the expenditure items reflected in the survey.

According to Martinez-Vazquez (2004), in order to estimate benefit incidence or public expenditure incidence, it is necessary to combine data on the use of the public services by households which is usually contained in the household surveys with the data on the cost of providing these services. Demery (2000) indicates that the rationale behind the use of estimates in a benefit incidence analysis and not the subsidised cost that consumers pay is due to the fact that the supply of such subsidised goods is usually rationed and it is, therefore, not valid to use the price paid as a measure of the underlying value of the goods to the individual consumer. Thus, in taking the above views of Martinez-Vazquez (2004) and Demery (2000) into consideration, data required for assessing the public expenditure incidence was obtained from the 2009/2010 fiscal budget to determine the funding allocated to these public expenditure programmes while the data on the use of health and education services by households was obtained from the Annual Education Census Report for 2010, as prepared by the Ministry of Education, and the Swaziland Annual Health Statistics Report for 2010, as prepared by the Ministry of Health. This data was used for estimating the health and education unit subsidies which were applied to the data obtained from the SHIES survey to determine the incidence of these expenditures.

### **3.3 Data Analysis Methods**

#### **3.3.1 Tax and Expenditure Incidence**

The majority of the fiscal incidence studies that have been carried out in various countries identified the following useful data analysis methods as relevant for determining the incidence of tax and public expenditure and the net effect of both. Sahn & Younger (1999), Demery (2000), Etoh-anzah, Tabi & Jumbo (2004), and Van der Berg & Moses (2012) describe the

following as relevant data analysis methods in determining the fiscal incidence of a country's tax and expenditure policies:

**a. Concentration Curves and Indices**

According to Etoh-anzah & Tafah (2009:3):

The concentration curve is a normative tool used in assessing the impact of tax and transfer policies and reforms, the curve is similar to the Lorenz curves as it plots households from the poorest to the wealthiest on the horizontal axis against the cumulative proportion of benefits received or taxes paid for all households.

Kakwani (1977) extended the Lorenz curve concept and used it to analyse the relationships relating to the distributions of different economic variables. Kakwani (1977) defined the generalised Lorenz curve as the concentration curve. Van der Berg & Moses (2012) further indicated that the concentration curve, unlike the Lorenz curve, may lie above the diagonal line of perfect equality, which would indicate that public spending is progressive and pro-poor; however, if the concentration curve lies below the diagonal line this is an indication of a regressive public spending policy. In the case of the tax concentration curve, Etoh-anzah & Tafah (2009) indicate that if the curve lies below the diagonal line, the tax policy is progressive and equity enhancing whereas, if the concentration curve lies above the diagonal, the tax is regressive. Cubero & Hollar (2010) further state that the concentration curve measures the cumulative tax paid per quintile of pre-tax income and a tax is considered progressive if its concentration curve consistently lies below the Lorenz curve. Based on the concentration curves concept, Van der Berg (2005) defined the concentration index as

$$1-2* (\text{Area under the concentration curve})$$

where the concentration curve for a pro-poor public spending policy lies above the diagonal and has a negative concentration index and a public spending policy that is not pro-poor would have a positive concentration index. Cubero & Hollar (2010), however, indicate that in a situation in which it is not possible to determine the overall progressivity because the concentration curve crosses the pre-tax Lorenz curve several times, then the Gini coefficient for the tax concentration curve, that is, the quasi-Gini coefficient, may be used to determine the progressivity of the tax.

### **b. Kakwani Index**

According to Haughton & Khandker (2009), generating a summary measure of the progressivity of a tax is also helpful and one common approach to this is the Kakwani measure of tax progressivity or the Kakwani index. The Kakwani index is calculated by deducting the tax or public expenditure concentration index from the pre-tax Gini coefficient. A positive Kakwani index reflects a progressive tax policy, a negative Kakwani index reflects a regressive tax policy and an index of zero reflects a neutral tax policy (World Bank 2014). With regard to public expenditure a positive Kakwani index indicates that the public expenditure policy is not progressive while a negative index indicates that the expenditure policy is both equity enhancing and progressive (Van de Berg 2005).

Creedy et al. (2008) describe the Kakwani index according to the formula below and indicate that the index measures the disproportionality of the tax payments relative to pre-tax incomes:

$$K = C_i - G_y$$

where  $C_i$  is the concentration index and

$G_y$  is the Gini index before any fiscal intervention.

The Kakwani index measure was also used in this research to assess the redistributive effect of Swaziland's tax and public expenditure policies.

### **c. Reynold-Smolensky Index**

Haughton & Khandker (2009) indicate that the Kakwani index is a good measure of progressivity of the tax or expenditure policy but that it does not serve as a good indicator of the impact that a change in the tax or expenditure policy would have on the distribution of income or the reduction of poverty. They recommend the use of the Reynold-Smolensky measurement for this purpose. Creedy et al. (2008) describe the Reynold-Smolensky index according to the formula below:

$$RS2 = G_y - G_z$$

where  $G_y$  is the Gini coefficient for pre-tax/benefit income and

$G_z$  is the Gini coefficient post-tax/benefit income.

A positive index indicates that a tax is progressive while a negative index would be indicative of a regressive tax. Like the Kakwani index, a positive index indicates that the public spending is regressive and not equity enhancing while a negative index shows that the policy is both progressive and equity enhancing.

#### d. Benefit Incidence Analysis

“The benefit incidence methodology was pioneered by Meerman (1979) and Selowsky (1979), the methodology combines the cost of providing public services with information on their use to show how the benefits of government spending are distributed across the population” (Etoh-anzah, Tabi & Jumbo 2004:8). Demery (2000) describes the following as the relevant steps in the benefit incidence methodology:

- i. Obtaining estimates on the unit subsidy of providing a particular service – usually obtained from the official public spending in question
- ii. Imputing the unit subsidy to households or individuals that have been identified as the users of the service, and
- iii. Aggregate individuals or households and categorise them into quintiles or deciles sub-groups of the population in order to compare how the subsidy is distributed across such groups – the most commonly used grouping being the household income or expenditure.

According to Sahn & Younger (2000), the aggregation of individuals or households into sub-groups allows for the cumulative ranking of the population from the poorest to the richest in terms of either income or expenditure and, therefore, shows the distribution of the public expenditure across the population. Van de Berg (2009) indicates that the public expenditure policy is considered to be progressive if a larger proportion of the spending benefits the poorer households compared to the rich households and regressive if the richer households receive more than the poor households. Demery (2003) indicates that the benefit incidence analysis imputes to those households using a particular service the cost of providing that service while the imputation relates to the amount by which household income would have to increase if it had to pay for the service used. Demery (2003) recommends the use of the

formula below to impute this cost; 
$$X_j = \sum_{i=1}^3 \frac{E_{ij}}{E_i} \left( \frac{S_i}{S} \right) = \sum_{i=1}^3 e_{ij} S_i$$

Where  $x_j$  is the total education spending imputed to group j

S is the government education subsidy

$E_{ij}$  is the number indicating public school enrolment with the subscript (i) representing the level of education, that is, primary, secondary and tertiary

$e_{ij}$  is the shares of the group in total service use which is a reflection of household behaviour (enrolment in the case of education and use of health facilities in the case of the health public spending)



$S_i$  is the shares of public spending across the different types of service which is a reflection of government behaviour.

### 3.3.2 Net Fiscal Incidence

According to Cubero & Vladkova (2010), the results from the tax incidence and public expenditure incidence may be combined to produce an estimate of the distributional effects of the fiscal policy. This is done by comparing the concentration indices of income patterns before and after fiscal policy interventions and is summarised by the Reynold-Smolensky Index. Etoh-anzah, Tabi & Jumbo (2004) further indicate that the progressivity of the combined tax and public expenditure is assessed on the policy's ability to reduce the pre-tax and pre-public expenditure Gini coefficient. According to Jenkins (1988), the Gini measure post tax/expenditure may be expressed in terms of the following covariance:

$$G_x = \frac{2}{\bar{x}} \text{cov} [x, F(x)]$$

Where:  $G_x$  is the pre-tax Gini measure

$x$  is the pre-tax/public expenditure income

$F(x)$  is the distribution function of household expenditure, so that that the  $F(x)$  represents the proportion of individuals with expenditure less than or equal to  $x$

$\bar{x}$  is the arithmetic mean of the pre-tax/transfer expenditure.

**$G_y = \text{Post-tax/expenditure Gini}$**

$$G_y = \frac{2}{\bar{y}} \text{cov} [y, F(y)]$$

Where:  $G_y$  is the Gini measure

$y$  is the post-tax/public expenditure income

$F(y)$  is the distribution function of household expenditure, so that that the  $F(y)$  represents the proportion of individuals with expenditure less than or equal to  $y$

$\bar{y}$  is the arithmetic mean of the post-tax/transfer expenditure.

Etoh-anzah & Tafah (2009) indicate that the redistributive effect of the combined tax and expenditure system is the difference between the pre-tax/expenditure Gini and the post-tax/expenditure Gini as represented by  $L$ , which is also the Reynold-Smolensky measure of income distribution progressivity,

where  $L = G_x - G_y$ .

Etoh-anzah & Tafah (2009), further state that a negative L indicates that the combined tax and expenditure system reduces inequality while a positive L indicates that the combined tax and expenditure system do not reduce inequality.

### **3.3.3 Measuring the Net Fiscal Incidence for Swaziland**

The data analysis method adopted for the purposes of this research follows the fiscal incidence analysis measurements/methods discussed above. The tax policy incidence was based on taxes that could be directly imputed to the data collected by the SHIES. Applicable tax rates as per the revenue authority's tax tables were applied to this data. In order to generate the distribution regarding the education and health spending, data relating to the cost incurred in providing these public services was obtained from the government budget while data regarding their use was also obtained from the household income and expenditure survey, the annual education census report and the 2010 Swaziland annual health statistics report. This step was deemed to be necessary as it allowed for the households to be grouped into deciles or quintiles in order to assess the distribution of the tax burden and public expenditure across the population. The SPSS software was then used to compute the Kakwani Index, the Reynold-Smolensky index and the concentration indices and for the graphical representation of the tax and benefit incidence measurements through the concentration curves.

### **3.4 Research Limitations**

It was not possible to assess the incidence of the following taxes as the Swaziland Household Income and Expenditure Survey (SHIES) 2009/10, which was the main source of household data, did not contain any data on households' encounter with these taxes:

- a. **Company tax** – this tax is charged on company profits. The SHIES did not contain any data on the ownership of corporate asset, which could result in households being affected by this tax.
- b. **Road tolls tax** – the tax was excluded as it is levied only on foreign registered vehicles at the country's border posts and on all commercial vehicles. The SHIES did not contain any data on the ownership of commercial vehicles by households.
- c. **Withholding tax** – residents are affected by this tax only if they own interest-bearing instruments, for example unit trust investment and government treasury bills, or own property that they have leased out. Data on the ownership of these instruments and assets was also not included in the SHIES survey.

The following were the limitations for the benefit incidence analysis;

- a. **Quality of health and education** – the analysis does not take into account the quality of the health and education services that the government provided, as collecting data on this aspect would require a separate survey in order to assess such data.

## **CHAPTER 4      DATA ANALYSIS AND DISCUSSION**

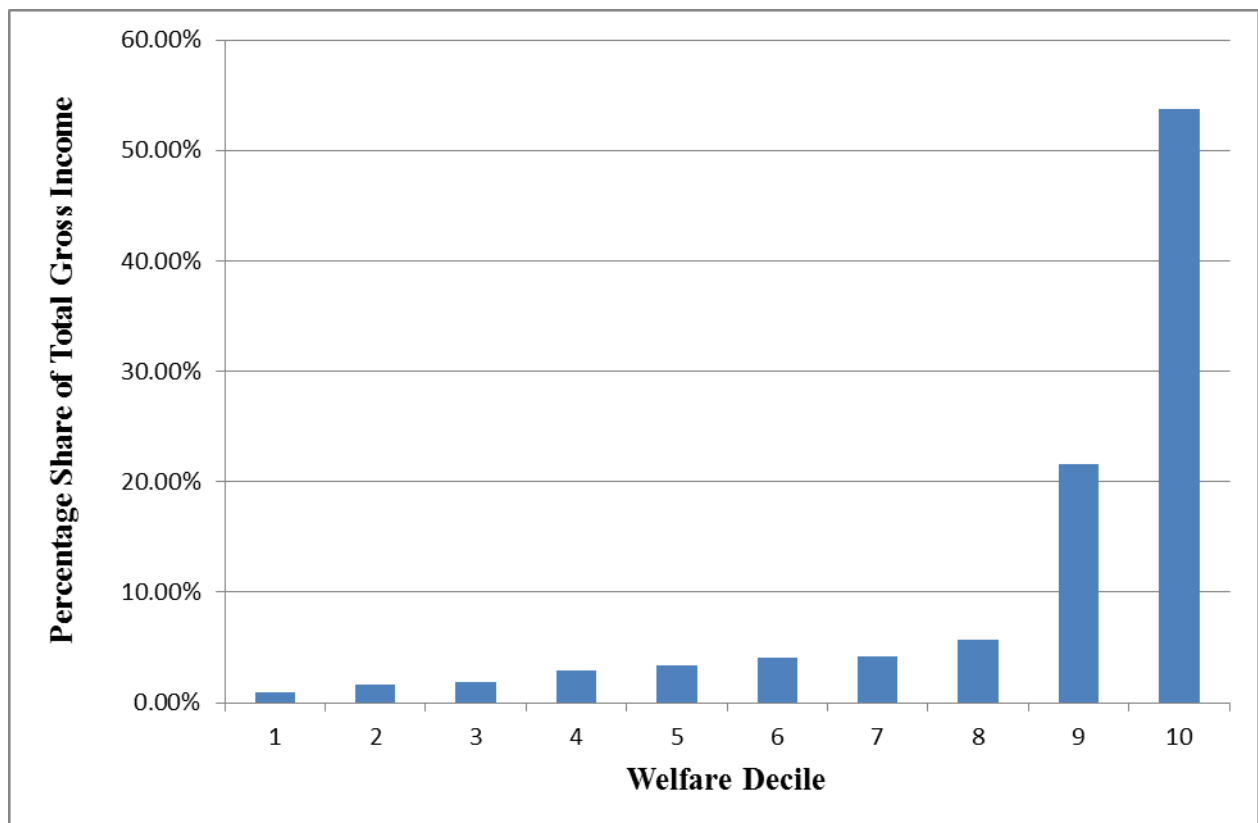
Through its National Development Strategy, the government of Swaziland undertakes to develop strategies directed at the socio-economic development and welfare enhancement of its people. Some of the most important goals articulated in this strategy include the eradication of poverty, the equitable distribution of resources and the improvement of human development.

Since 1997 when the National Development Strategy was developed, the government has been struggling to achieve its socio-economic developmental goals. According to the Central Statistics Office (2001), in 2001 the percentage of people living in poverty was found to be fairly high at 69 per cent. However, in 2010 the Central Statistics Office (2010) observed that there had been a slight decline of 6 percentage points as the number of people living in poverty had declined to 63 per cent. The country has not made significant progress with regard to the achievement of its human development goals. According to the United Nations Development Programme (2015), in 2014 Swaziland was ranked 148 out of 188 countries with a HDI of 0.541. The household income data collected for the SHIES 2010 study also revealed that the income inequality level expressed according to the GINI coefficient was fairly high at 0.7909.

Having reviewed the country's National Development Strategy and the progress that the country has made in attaining the objectives outlined in this strategy, the incidence analysis carried out for the purposes of this research sought to determine whether the government's fiscal policy is consistent with the goals reflected in the National Development Strategy. This was assessed in terms of the progressivity and redistributive ability of both the tax and the public expenditure system.

#### 4.1 Income Distribution

“Extreme disparities in income are slowing the pace of poverty reduction and hampering the development of broad-based economic growth, disparities in basic life chances for health, education and participation in society are preventing millions of Africans from realising their potential” (Annan, 2012:6). The level of income inequality in Swaziland has also led to the slow pace of both poverty reduction and economic growth and development. The Swaziland Household Income and Expenditure Survey carried out in 2010 revealed that the two richest deciles account for 75.32 per cent of the total household income while the poorest deciles account for only 2.55 per cent of the total household income. Figure 2 below was prepared according to the data collected in the 2010 household survey. Households were grouped into deciles using income as a welfare measure. The results in Figure 2 show that, in 2010, there was an unequal distribution of income in Swaziland.



**Figure 2: Pre-fiscal incidence income distribution**

*Source: Swaziland Household Income and Expenditure 2010 survey and own calculations for categorising into deciles*

## **4.2 Analysis of Tax Incidence**

### **4.2.1 Overview of Swaziland's Tax System**

In order to assess the impact of a government policy on inequality, it is important to identify the redistributive instruments available to the government. The revenue instruments relate to the tax policy and requires the evaluation of a government's efforts to collect, allocate and redistribute resources in order to support a minimum living standard and reduce inequality and the expenditure instruments relates to the review of the expenditure programmes (Lustig 2011).

Tax income is a major source of revenue for the Swazi government; Table 1 below gives a summary of the government's revenue over a period of six years. In the 2009/10 financial year tax revenue comprised 32.43 per cent of the country's gross domestic product while non-tax revenue comprised 1.63 per cent only of the gross domestic product. Tax revenue remained the highest source of income up to the 2014/15 financial year end. During this financial year the tax revenue constituted 35.45 per cent of the gross domestic product with non-tax revenue making up 0.92 per cent only of the gross domestic product. Swaziland is a member of the Southern African Customs Union (SACU). The revenue derived from this union made up 57 per cent of the total government revenue in the 2009/10 financial year and, in the 2014/15 financial year, it made up 55.6 per cent of the total government revenue. This comprised 19.42 per cent of the gross domestic product in 2009/10 and 20.21 per cent in 2014/15.

**Table 1: Government Revenue Collections to GDP from 2009/10 to 2014/16**

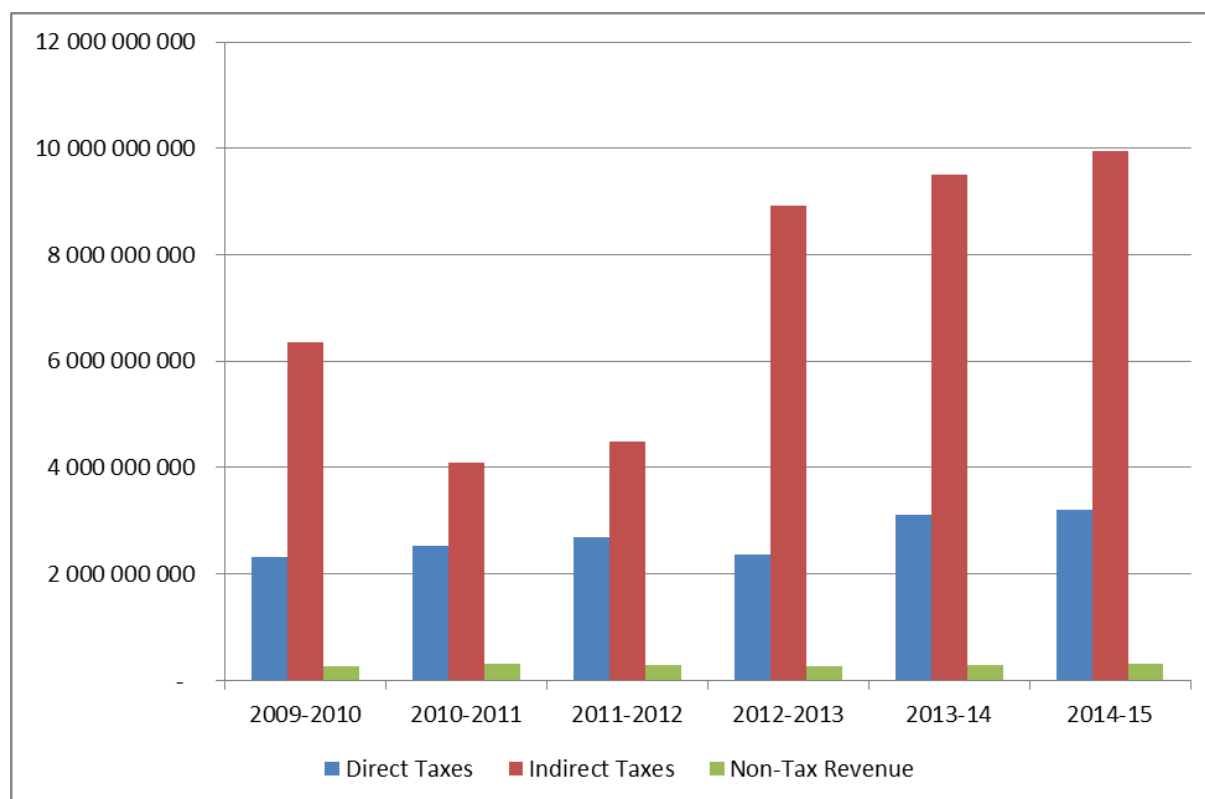
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
<b>Total Government Revenue</b>	34.07%	26.84%	25.73%	38.88%	36.97%	36.37%
<b>Tax Revenue</b>	32.43%	25.73%	25.89%	36.59%	36.85%	35.45%
<b>Direct Taxes</b>	8.64%	9.80%	9.72%	7.65%	9.11%	8.63%
Personal Income Tax	4.98%	5.62%	5.64%	4.37%	5.12%	4.86%
Corporate Tax	2.65%	2.96%	2.98%	2.41%	3.13%	2.93%
Graded Tax	0.01%	0.02%	0.01%	0.01%	0.00%	0.00%
Other Income Taxes	1.01%	1.20%	1.09%	0.86%	0.87%	0.83%
<b>Indirect Taxes</b>	23.56%	15.77%	16.01%	28.82%	27.64%	26.72%
Sales Tax/Value Added Tax	3.73%	4.87%	4.82%	5.70%	5.06%	4.81%
Fuel Levy	0.34%	0.57%	0.74%	0.12%	1.60%	1.62%
Property Taxes	0.06%	0.11%	0.08%	0.09%	0.08%	0.08%
SACU Receipts	19.42%	10.21%	10.37%	22.91%	20.89%	20.21%
<b>Other Indirect Taxes</b>	0.23%	0.16%	0.17%	0.11%	0.10%	0.10%
Sugar Export Levy	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%
Road Tolls	0.09%	0.09%	0.10%	0.09%	0.08%	0.08%
Lotteries and Gaming	0.08%	0.07%	0.07%	0.02%	0.02%	0.02%
<b>Non-Tax Revenue</b>	1.63%	1.10%	0.90%	2.30%	0.12%	0.92%

*Source: Own calculations based on the Swaziland Revenue Authority 2014 Annual Report, the 2009/10 to 2016/17 budget estimates book and the Central Statistics Office*

Figure 3, below confirms that the main source of revenue for the government was indirect taxes, followed by the direct taxes while the least revenue was derived from the non-tax revenue. Figures 3 and 4 give a breakdown of the direct and indirect taxes and according to Figure 4 government earned the highest direct taxes from the personal income taxes and corporate taxes. However, during the 2012/13 financial year a decline in these sources of revenue was observed. The Swaziland Revenue Authority (2013) attributed this decline to both a low level of compliance regarding the filling of income tax returns by companies during this period and the salary freeze for people in civil service.

In the subsequent financial year an improvement was observed in the personal income tax revenue as the government had reviewed the salaries of its employees and parastatals. The improvement in corporate taxes was attributed to the improved profits of export companies as well as the improvement in the level of compliance regarding the filing of returns, (Swaziland Revenue Authority, 2014).

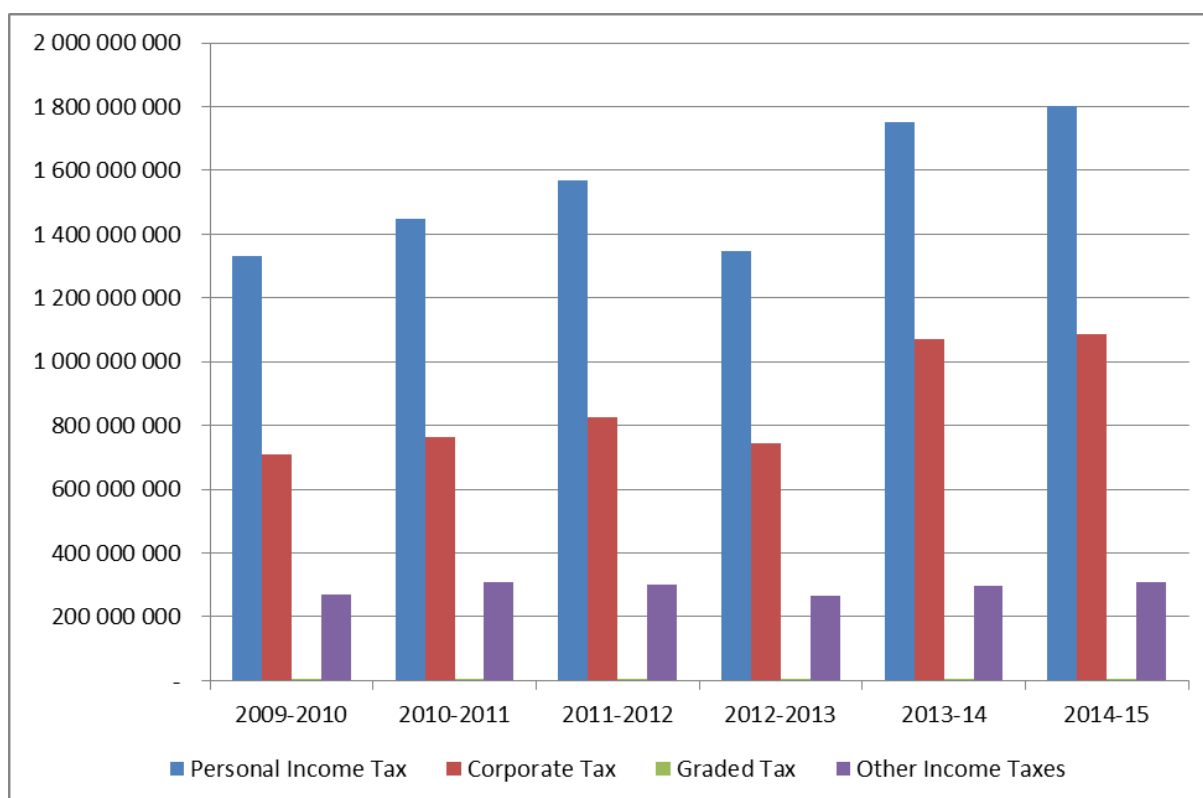
Figure 5 presents a breakdown of the indirect taxes and shows that the collection of value added tax (VAT) continued to improve since it was launched in 2012. Nevertheless, the Swaziland Revenue Authority is continuing to raise awareness about this tax in order to improve compliance with the VAT statute and increase the revenue from this source. In the 2013/14 financial year-end a significant increase in the tax generated from the fuel levy was observed, this was due to the 100 per cent increase in the levy from E1 to E2 per litre (Swaziland Revenue Authority, 2013).



**Figure 3: Government Revenue Allocation**

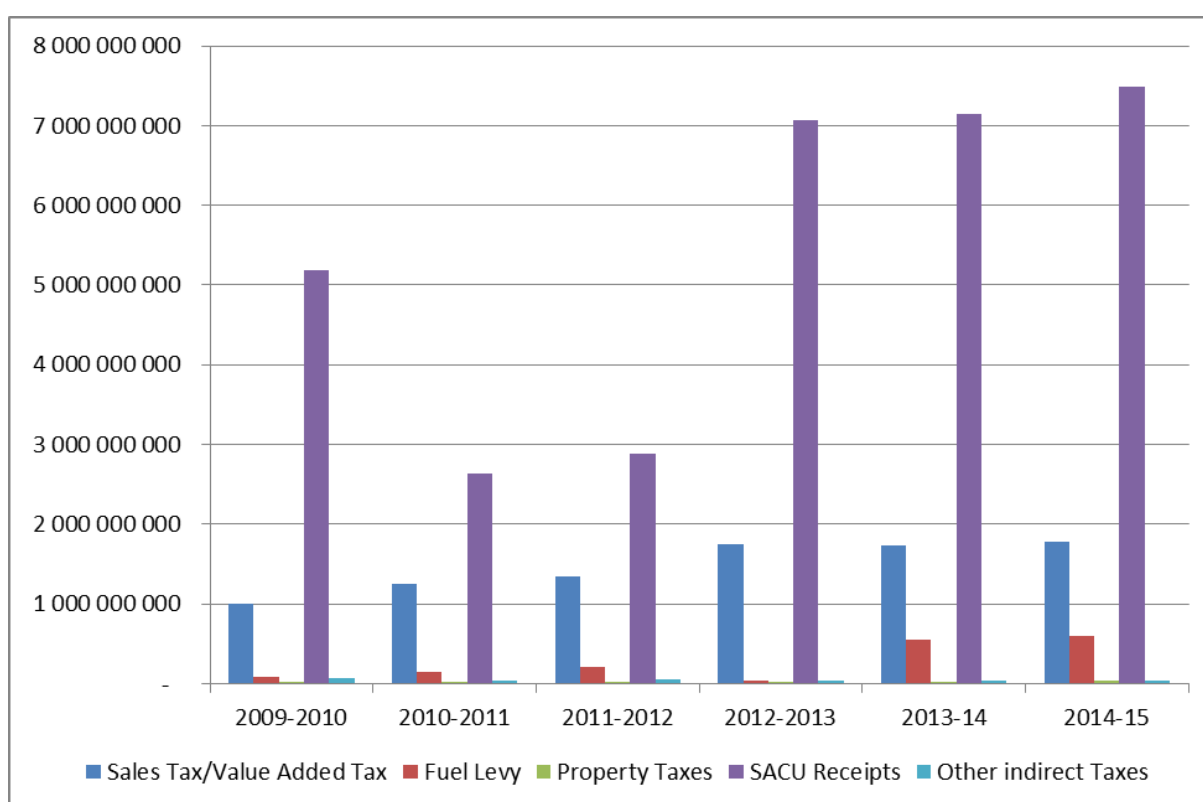
*Source: Adopted from the Swaziland Revenue Authority 2014 Annual Report and the the Government Budget estimate book*





**Figure 4: Direct Taxes**

*Source: Adopted from the Swaziland Revenue Authority 2014 Annual Report and the the Government Budget estimate book*



**Figure 5: Indirect Taxes**

*Source: Adopted from the Swaziland Revenue Authority 2014 Annual Report and the the Government Budget estimate book*

#### 4.2.2 Personal Income Tax Incidence

In order to determine the incidence of personal income tax on households, data relating to household income was obtained from the SHIES 2010 survey while the tax rates applied were obtained from the Income Tax Order, 1975. As a result of the fact that personal income tax rates change regularly, the income tax rates applicable to the income earned during the 2009/10 financial year were obtained from the individual income tax filling returns for that year. The incidence results are presented in Table 2 below.

**Table 2: Personal Income Tax Incidence**

<b>Welfare decile</b>	<b>Gross Income</b>	<b>Share of Gross Income</b>	<b>Personal Income Tax</b>	<b>Effective tax rate</b>
1	E4,134,590	0.90%	E305	0.01%
2	E7,574,143	1.65%	E4,270	0.06%
3	E8,609,187	1.87%	E4,769	0.06%
4	E13,306,432	2.90%	E31,131	0.23%
5	E15,652,326	3.41%	E169,339	1.08%
6	E18,631,506	4.06%	E264,934	1.42%
7	E19,429,817	4.23%	E489,740	2.52%
8	E25,982,786	5.66%	E1,458,114	5.61%
9	E99,051,422	21.57%	E2,215,347	2.24%
10	E246,802,179	53.75%	E10,894,137	4.41%
<b>Total</b>	<b>E459,174,388</b>	<b>100.00%</b>	<b>E15,570,522</b>	<b>17.64%</b>

*Source: Own calculations based on SHIES 2010 income data and the Swaziland Income Tax Order, 1975*

*PIT: Personal Income Tax*

*E: Emalangeni (Swaziland's local currency, it is equivalent to the South African Rand)*

According to Table 2 above, Swaziland's personal income tax may be deemed to be progressive as the effective tax rate increases with an increase in income and, thus, a larger proportion of the income tax is collected from the higher income earners. In addition, the proportion of income used to pay tax also increases with the increase in income. The tax is also progressive at all deciles as the proportion of the tax paid is lower than the market share of income in all the deciles. Although the PIT is progressive, the burden falls more heavily on the households in the 8th decile as, in that decile, the share of the market income is 5.66 per cent while the proportion of tax paid by these households is slightly below their market share of income by 5 percentage points. The progressivity in the income tax is influenced primarily by the fact that, in terms of the income tax law, people earning an annual income below E41, 000 are exempt from income tax while the income tax order allows for an annual rebate of E8 200 for every taxpayer.

Although the PIT is considered to be progressive, both the tax exemption and the tax rebate have resulted in the country having a narrow income tax base from which to collect the PIT. This narrow tax base also means that the government is losing the income that it requires to finance its economic activities. In addition, this narrow base could also be seen as the result of the level of income inequality in the country as the larger share of the country's income is concentrated among the few high income earners and it is, thus, not evenly distributed throughout the population. Although broadening the income tax base by reducing the exempt income tax levels and the tax credit may be advantageous for the government of Swaziland, as this would enable the government to increase its tax revenue, it may also have a negative impact on the redistributive ability of the tax policy, thus leading to an increase in the poverty levels in the country as a result of the reduction in disposable income, especially as regards the low income households. However, it is possible to achieve a broader tax base that does not negatively affect the redistributive ability of a tax policy by levying taxes on other activities such as the consumption of goods and services or the use of other public facilities such as public roads.

#### **4.2.3 Graded Tax Incidence**

Graded tax is considered to be a regressive tax as citizens who are employed are required to pay the annual E18 (equivalent to E1.5 per month) regardless of their level of income. Unemployed male citizens are also required to pay this tax. The burden of this tax falls heavily on both the low-income earners and the unemployed. In addition, this tax generates very little revenue for the country. In the 2013/14 financial year budget speech, the Honourable Minister of Finance strongly articulated his concerns regarding the efficiency of this tax and indicated the government's plan to phase the tax out as it is deemed to be unfair to both the poor and the unemployed as they accumulate arrears for each year that they do not pay. In fact the costs that the government incurs collecting the tax exceeds the revenue generates from the tax.

**Table 3: Graded Tax Incidence**

<b>Welfare Decile</b>	<b>Share of Gross</b>	<b>Graded</b>	<b>Tax as a Proportion</b>
	<b>Income</b>	<b>Tax</b>	<b>of Income</b>
		E	
1	0.90%	13,523	0.33%
2	1.65%	13,209	0.17%
3	1.87%	9,357	0.11%
4	2.90%	8,793	0.07%
5	3.41%	8,694	0.06%
6	4.06%	7,767	0.04%
7	4.23%	7,296	0.04%
8	5.66%	5,459	0.02%
9	21.57%	4,604	0.00%
10	53.75%	3,216	0.00%

*Source: Own Calculations based on the SHIES 2010 survey*

Table 3 above confirms that the graded tax is regressive as the tax, as a proportion of income, declines when moving from the poorer deciles to the richer deciles with the result that the poorer households bear the highest burden of this tax.

#### 4.2.4 Combined Direct Taxes

In order to assess the overall direct tax incidence on households, the personal income tax and the graded tax were added together. It was observed that the regressive graded tax did not impact significantly on the overall progressivity of the direct income tax. However, the graded tax increased the direct tax burden on the poor households although the overall tax incidence was still less than the households' share of gross income.

Table 4, shows that the country's direct tax is progressive up to decile 7 as the post-tax share of income for households in decile 1 to decile 7 is higher than the pre-tax share of income. However, households in decile 8 bear the highest burden of the personal income tax when compared to the poorer and the richer decile households. The redistributive impact of the direct tax was also confirmed by the reduction in the share of income for the households in deciles 8 to 10.

**Table 4: Combined Direct Taxes**

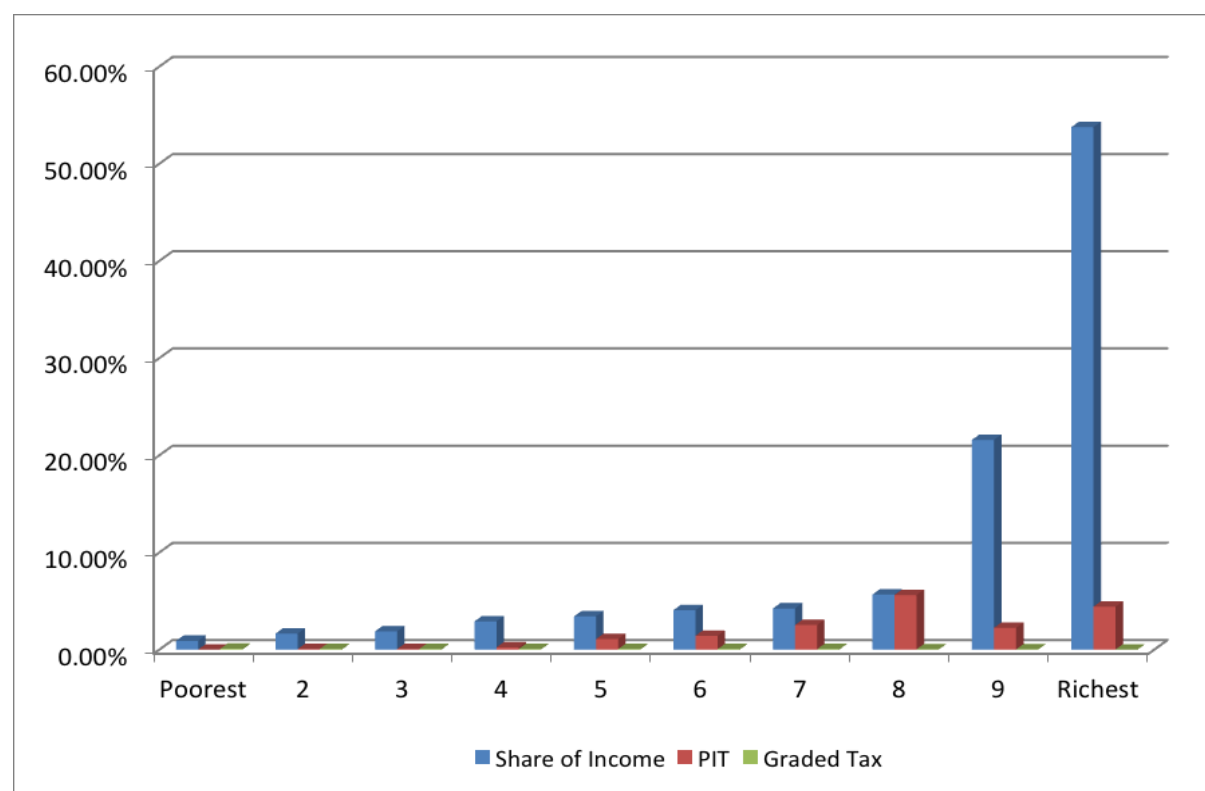
<b>Welfare Decile</b>	<b>Share of Gross Income</b>	<b>PIT</b>	<b>Graded Tax</b>	<b>Combined Direct Tax</b>	<b>Share of Income after Direct Tax (Disposable Income)</b>
1	0.90%	0.007%	0.33%	0.334%	0.93%
2	1.65%	0.056%	0.17%	0.230%	1.70%
3	1.87%	0.055%	0.11%	0.164%	1.94%
4	2.90%	0.234%	0.07%	0.300%	2.99%
5	3.41%	1.082%	0.06%	1.138%	3.49%
6	4.06%	1.422%	0.04%	1.464%	4.14%
7	4.23%	2.521%	0.04%	2.559%	4.27%
8	5.66%	5.612%	0.02%	5.633%	5.53%
9	21.57%	2.237%	0.00%	2.242%	21.83%
10	53.75%	4.414%	0.00%	4.415%	53.18%

**Table 5: Combined Direct Tax Indices**

<b>Pre-Tax Gini</b>	<b>Quasi-Gini of Direct Taxes</b>	<b>Kakwani Index</b>	<b>Reynold Smolensky Index</b>	<b>Post-Tax Gini</b>
0.7909	0.8419	0.0510	0.0486	0.7423

*Source: Own calculations based on the results obtained from the SPSS programme that was used.*

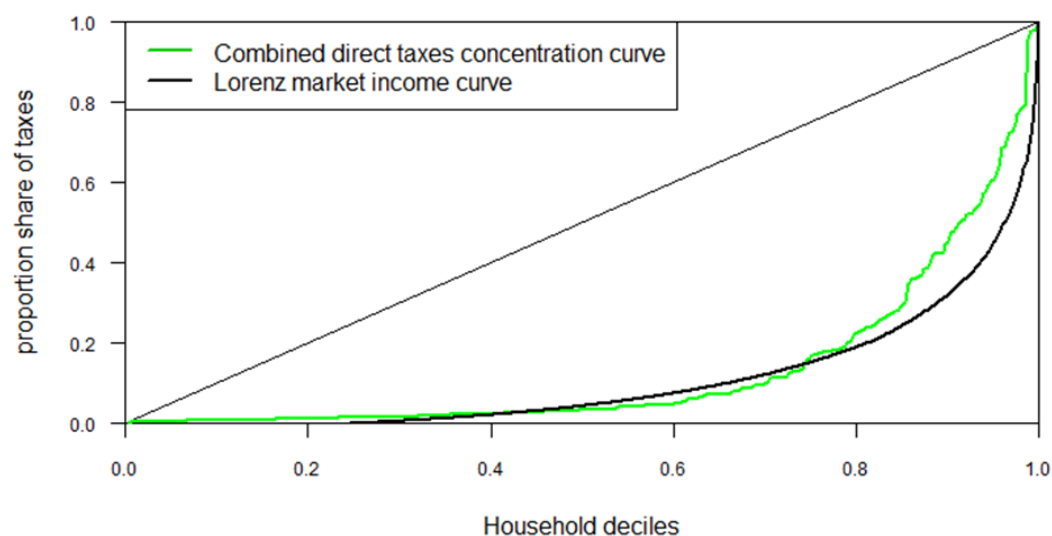
The indices in Table 5 above were calculated to assess the overall progressivity of the direct taxes. The overall progressivity of the direct tax income was confirmed by both the positive Kakwani index of 0.05 and the positive Reynold-Smolensky index of 0.05. Figure 6 below also confirmed that overall direct taxes were progressive as the share of income across all deciles except for decile 8 where the proportion of taxes paid by the households in this decile was higher than the households' share of income. Figure 6 confirmed the inequality in the distribution of income as the share of income increases gradually from the poorest deciles up to decile 8 after which a significant increase in the share of income was observed for households in deciles 9 and 10 – the richest households. The results in Figure 6 show that direct taxes have a minimal impact on the reduction of inequality in Swaziland.



**Figure 6: Income Distribution and Direct Taxes**

Cubero & Hollar (2010) indicate that, where the concentration curve consistently lies below the Lorenz curve, the tax is considered progressive. However, where the concentration curve crosses the Lorenz curve and it is not possible to assess the overall progressivity, the quasi-Gini coefficient may be used to assess the progressivity. Figure 7 below shows that the direct taxes concentration curve was not consistently below the Lorenz curve, thus implying that it could not dominate the Lorenz curve. The concentration curves crossed the Lorenz curve at

deciles 4 and 8 where the households' share of disposable income was lower than their share of the combined direct taxes.



**Figure 7: Direct Taxes Concentration Curve**

#### **4.2.5 Indirect Tax Incidence**

In determining the indirect tax incidence, Lustig & Higgins (2013) indicate that, in order to determine the progressivity of an indirect tax accurately, in cases where the survey being used contained data on consumption and income, indirect taxes should be simulated using consumption and not income. Lustig & Higgins (2013) further indicate that, if the welfare measure being used is income, the statutory tax rates should first be applied to the consumption items in order to determine the overall portion of consumption paid as indirect taxes. Although income was used as a welfare measure in this study, the indirect tax incidence results were presented on both the income and the expenditure welfare measures in order to show how both these welfare measures yielded different incidence results. According to the World Bank (2014), the consumption decisions of households are based on the households' disposable income, which is gross income less direct tax plus any cash transfers if present, meaning that households consume significantly more than they would have consumed if their consumption had been based only on their market income. The indirect tax incidence for the purposes of this study was also based on disposable income. However, disposable income was based on the households' gross income less personal income taxes and graded taxes. This limitation was a result of the fact that, as regards the collection of income data, the SHIES survey did not provide a breakdown of income and, thus, it was not possible to assess the

income received by households as direct transfers. Figures 8 and 9 below present a comparison of the consumption baskets of poor households and rich households. The poor households are represented by households in deciles 1 and 2 while the rich households are represented by households in deciles 9 and 10. Households incur indirect taxes through their consumption of various goods and services.

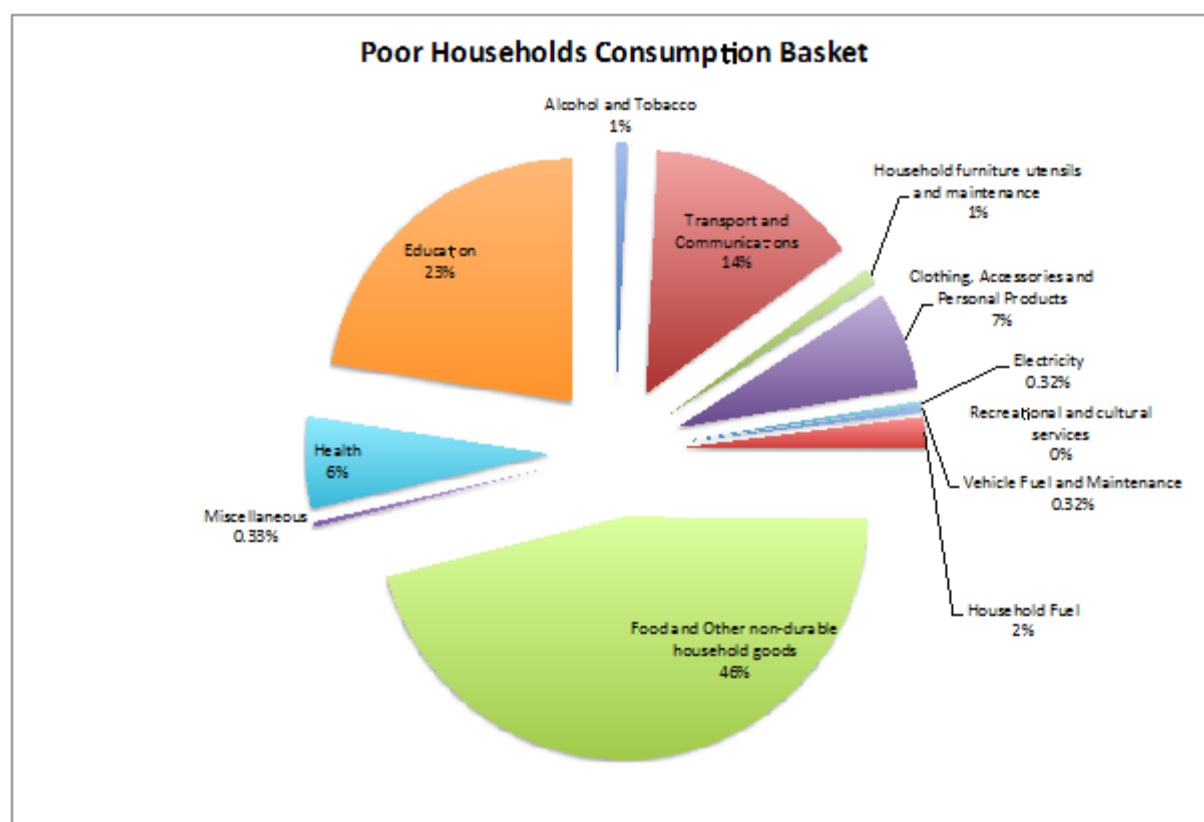


Figure 8: Poor Households Consumption Basket



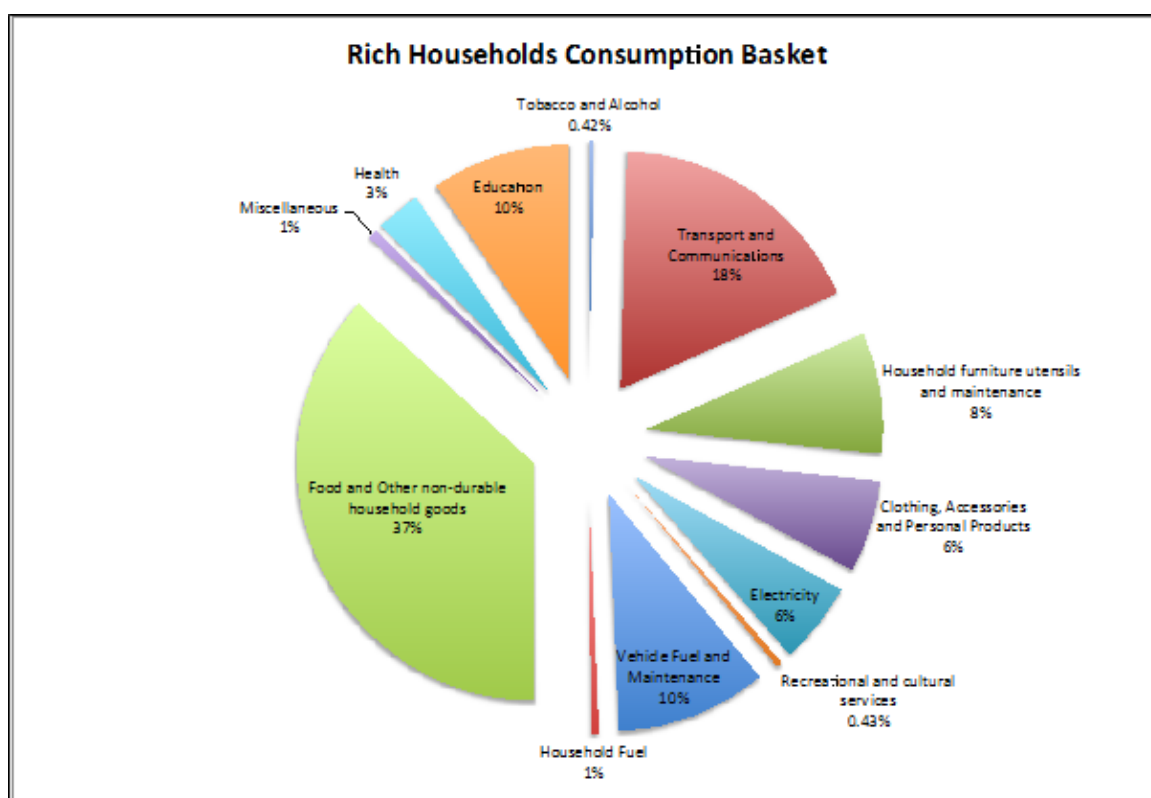


Figure 9: Rich Households Consumption Basket

#### a. Sales Tax/Value Added Tax

In order to broaden the country's tax base without negating the progressivity of the income tax system, Swaziland adopted a value-added-tax (VAT) policy with effect from April 2012. This tax reform was also driven by the need to improve the country's revenue as the previous General Sales Tax (GST) policy or legislation that had been in place was found to be inefficient in promoting the collection of the required revenue, while the number of exemptions had resulted in pervasive sales tax evasion (World Bank, 2010). The World Bank (2010) revealed that Swaziland was the least effective country with regard to the collection of sales tax revenue. When compared with the other SACU member states, Swaziland's sales tax collection in 2010 was 30 per cent of GDP, while the SACU average was 46.3 per cent. Sales tax collection in Swaziland was equivalent to 28.8 per cent of household consumption while the SACU average was 57.5 per cent. These inefficiencies meant that the government was forfeiting much-needed revenue while, at the same time the SACU revenues were declining (World Bank 2010). This situation compelled the government to increase its sales tax revenue and also to minimise the provisions that had made sales tax evasion prevalent. The adoption of a VAT policy was necessary for the government of Swaziland for the following reasons which Prasad (2008) cited as reasons for the adoption of VAT policies by many of the developing economies:

- a. Low income levels which lead to relatively small income tax bases.

- b. Low/poor efficiency with regard to the collection of taxes which often leads to high tax evasion and revenue leakage.
- c. Indirect taxes such as VAT represent a simpler and easier way in which to collect government revenue.

Although Swaziland introduced VAT in 2012, the changes in the tax rates were not significant as a sales tax of 14 per cent was levied on all expenditure items while basic food items remained zero rated. A sales tax of 25 per cent was levied on alcoholic beverages and tobacco. The difference in the effective VAT rate and the effective sales tax rate was, therefore, insignificant and yielded similar incidence results and, hence, the decision to apply the VAT rate to the 2010 household survey and present incidence results based on VAT. Table 6 below shows that, when household expenditure is used as a welfare measure, the VAT is slightly regressive as the poorest households bear a higher burden of the indirect tax compared to the richer households. However, when income is used as welfare measure VAT is slightly progressive as the poorest households bear the lowest burden compared to the households in the other deciles with the tax however falling more heavily on the households in deciles 7 and 8.

**Table 6: VAT Incidence**

Welfare Decile	Welfare Measure	
	Expenditure	Income
1	12.28%	0.81%
2	12.21%	1.27%
3	12.20%	1.73%
4	12.20%	2.09%
5	12.09%	1.84%
6	12.14%	2.21%
7	11.78%	3.20%
8	11.81%	3.42%
9	11.66%	1.90%
10	11.43%	1.96%

*Source: Own calculations based on the rates prescribed in the Value Added Tax Regulations 2012*

#### **a. Fuel Levy**

According to the Petroleum and Fuel Oil Act (1968), all bulk importers of petroleum or fuel oil are required to pay a levy of E2.0 of fuel tax per litre, E0.20 of fuel oil levy per litre and E0.35 per litre to the Motor Vehicle Accident Fund. This means that the burden of a fuel levy of E2.55 is borne by the consumers through their use of fuel for various purposes. For the purposes of this research, it is assumed that the entire fuel levy of E2.55 was borne by all

consumers through the use of various modes of transport although the fuel levy for household use only is E2.2.

The fuel levy incidence focused on both the expenditure that households incur as regards the use of fuel for household purposes and the expenditure incurred for transport purposes. The fuel levy incidence was progressive on both the expenditure and income welfare measures although the expenditure welfare measure demonstrated greater progressivity compared to the income welfare measure. According to the expenditure welfare measure the highest burden of the fuel levy is borne by the richest households. The SHIES survey also collected data on asset ownership in respect of the households. According to the survey, 39.6 per cent of the assets owned by the richest households operate on fuel while only 3.0 per cent of the assets owned by the poorest households operate on fuel. This factor also influences the progressivity of the fuel levy. One other factor that influenced the fuel levy was the fact that the poorest households rely primarily on wood and paraffin as a source of energy and both sources of energy are not subject to the fuel levy.

**Table 7: Fuel Levy Incidence**

Welfare Decile	Welfare Measure	
	Expenditure	Income
1	0.84%	0.06%
2	3.72%	0.05%
3	3.05%	0.05%
4	2.26%	0.05%
5	4.12%	0.08%
6	4.45%	0.10%
7	10.94%	0.35%
8	8.82%	0.30%
9	9.78%	0.19%
10	17.52%	0.34%

*Source: Own calculations based on fuel usage by households as per the SHIES 2010 survey and rates prescribed in the Petroleum and Fuel Oil Act (1968)*

#### **b. Excise Taxes**

According to the Customs and Excise Act (1971), the excise duties payable by consumers include the following:

- Spirits – 8.9 per cent per litre of alcohol
- Beer – 8.2 per cent per litre of alcohol
- Wine – 8.1 per cent per litre of alcohol

- Alcoholic fruit beverages – 8.3 per cent
- Cigarettes – 16.1%
- Fuel – 4%

The revenue from these taxes is transferred to the SACU common revenue pool and therefore is not accounted for as part of domestic revenues. According to the Swaziland Revenue Authority (2014), the customs and duties that were collected at the country's border posts and transferred to the SACU pool amounted to E163, 4 million during the 2013/14 financial year. This represented a significant increase from the 2010/11 financial year during which the receipts that were collected and transferred to the SACU pool amounted to E90.4 million only. Revenue accrued from membership of the SACU has proved to be important for the Swazi government because the contribution that the country makes to the SACU pool is significantly lower than the revenue earned from the pool. In the 2010/11 financial year Swaziland's contribution to the revenue pool comprised 3.4 per cent only of the revenue received from the pool while, in the 2013/14 financial, year the contribution comprised 2.3 per cent of the SACU receipts only. The SHIES 2010 survey collected data on household consumption of alcoholic beverages and the use of any narcotic drugs and hence the decision to focus on the excise tax incidence analysis of alcoholic beverages and cigarettes.

**Table 8: Excise Tax Incidence**

Welfare Decile	Welfare Measure	
	Expenditure	Income
1	0.33%	0.02%
2	0.35%	0.04%
3	0.24%	0.03%
4	0.17%	0.03%
5	0.21%	0.03%
6	0.36%	0.06%
7	0.23%	0.06%
8	0.20%	0.06%
9	0.13%	0.02%
10	0.17%	0.03%

*Source: Own calculations based on alcohol and cigarettes consumption data collected in the SHIES 2010 survey and the rates prescribed in the Customs and Excise Act, 1971*

The excise levy incidence was regressive when expenditure was used as a welfare measure with the two poorest deciles bearing the highest burden of the tax while the two richest deciles bear the lowest burden. However, when based on income as a welfare measure, the excise tax was slightly progressive as the poor households bear the lowest burden with the highest

burden being borne by the households in decile 6 to decile 8. The tax burden was lower than the market share of disposable income for both the income and expenditure welfare measures.

The overall indirect tax incidence was progressive on both the expenditure and income welfare measures as the richest households bear the highest burden of the tax. The slight progressivity when income is used as a welfare measure was due primarily to the progressive VAT with a Kakwani index of 0.0001 and a progressive fuel levy with a Kakwani index of 0.80834 while the excise taxes were regressive with a Kakwani index of -0.0239 as indicated in Table 10 below. The overall progressivity of the indirect taxes was also confirmed by the fact that the tax burden was lower than the income market share for all the income deciles. The results of the indirect tax incidence are summarised in Tables 9, Table 10 and Table 11 below.

**Table 9: Overall Indirect Tax Incidence based on Expenditure as a Welfare Measure**

<b>Welfare Decile</b>	<b>Share of Income after Direct Tax (Disposable Income)</b>	<b>VAT</b>	<b>Fuel Levy</b>	<b>Excise Tax</b>	<b>Combined Incidence</b>
1	0.93%	12.28%	0.84%	0.33%	13.45%
2	1.70%	12.21%	3.72%	0.35%	16.28%
3	1.94%	12.20%	3.05%	0.24%	15.49%
4	2.99%	12.20%	2.26%	0.17%	14.62%
5	3.49%	12.09%	4.12%	0.21%	16.42%
6	4.14%	12.14%	4.45%	0.36%	16.95%
7	4.27%	11.78%	10.94%	0.23%	22.95%
8	5.53%	11.81%	8.82%	0.20%	20.83%
9	21.83%	11.66%	9.78%	0.13%	21.57%
10	53.18%	11.43%	17.52%	0.17%	29.13%

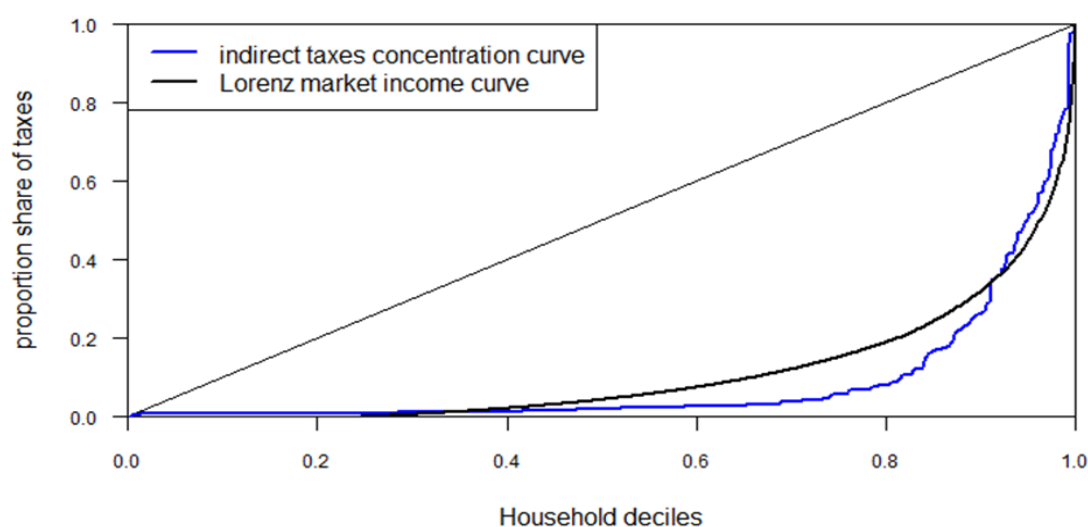
*Source: Own calculation based on consumption data from the SHIES 2010 survey and the tax rates prescribed in the legislations relating to the indirect taxes.*

**Table 10: Overall Indirect Tax Incidence based on Income as a Welfare Measure**

Welfare Decile	Share of Income after Direct Tax (Disposable Income)	VAT	Fuel Levy	Excise Tax	Combined Incidence
1	0.93%	0.81%	0.06%	0.02%	0.89%
2	1.70%	1.27%	0.05%	0.04%	1.36%
3	1.94%	1.73%	0.05%	0.03%	1.82%
4	2.99%	2.09%	0.05%	0.03%	2.16%
5	3.49%	1.84%	0.08%	0.03%	1.94%
6	4.14%	2.21%	0.10%	0.06%	2.37%
7	4.27%	3.20%	0.35%	0.06%	3.61%
8	5.53%	3.42%	0.30%	0.06%	3.78%
9	21.83%	1.90%	0.19%	0.02%	2.10%
10	53.18%	1.96%	0.34%	0.03%	2.34%
<b>Kakwani Index</b>		<b>0.0001</b>	<b>0.80834</b>	<b>-0.0239</b>	

*Source: Own calculation based on consumption data from the SHIES 2010 survey and the tax rates prescribed in the legislations relating to the indirect taxes.*

**Figure 10** below assessed the progressivity of the indirect taxes. The indirect taxes concentration curves were drawn against the market income Lorenz curve in order to determine the extent of the progressivity. The conditions for welfare dominance could not hold as the indirect taxes concentration curves also intersected the Lorenz curves several times. This required the calculation of both the Kakwani index and the Reynold-Smolensky indices to assess overall progressivity. The indices are summarised in Table 11 below.



**Figure 10: Indirect Taxes and Concentration Curves**

**Table 11: Indirect Taxes Indices**

<b>Disposable Income Gini</b>	<b>Quasi- Gini for Indirect Taxes</b>	<b>Kakwani Index</b>	<b>Reynold Smolensky Index</b>	<b>Post-Tax Gini</b>
0.7423	0.7427	0.0004	0.0001	0.7422

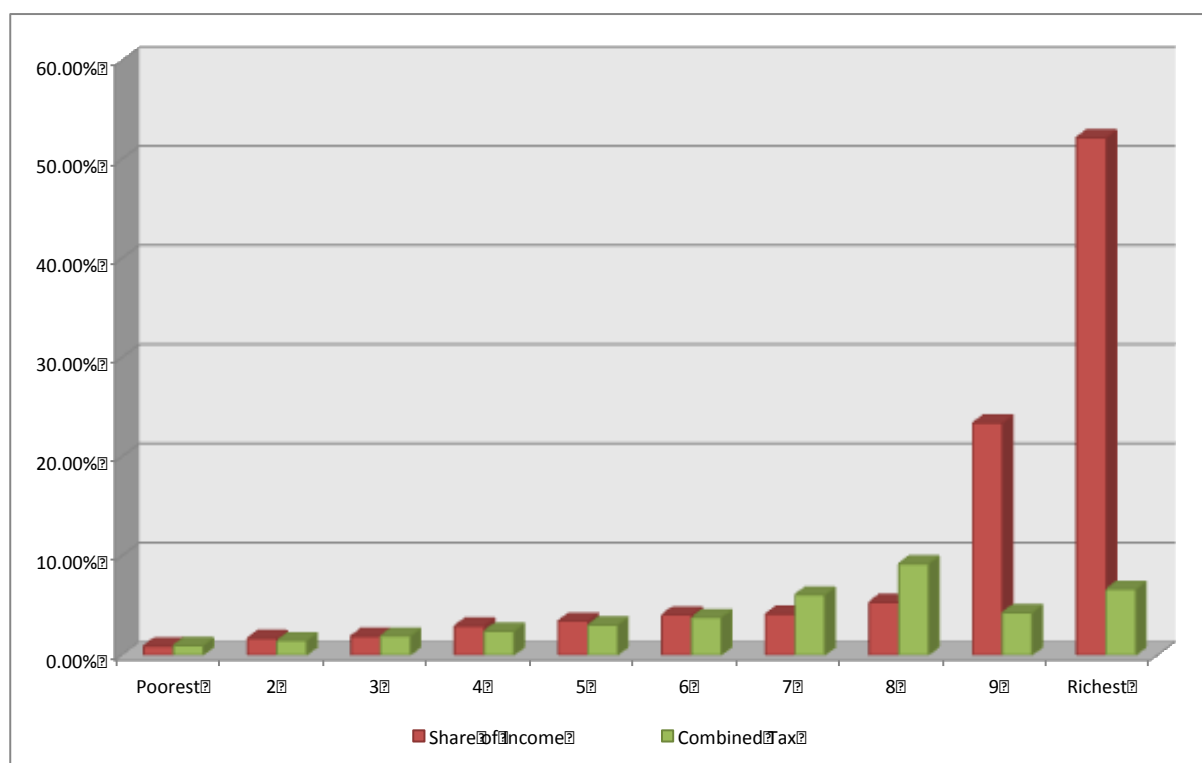
*Source: Own calculations based on the results obtained from the SPSS programme that was used.*

**Table 12: Overall Tax Incidence**

<b>Welfare Decile</b>	<b>Direct Tax</b>		<b>Indirect Tax</b>			<b>Combined Tax Incidence</b>
	<b>Graded Tax</b>	<b>Personal Income Tax</b>	<b>Value Added Tax</b>	<b>Excise Tax</b>	<b>Fuel Levy</b>	
1	0.33%	0.01%	0.81%	0.02%	0.06%	1.22%
2	0.17%	0.06%	1.27%	0.04%	0.05%	1.60%
3	0.11%	0.06%	1.73%	0.03%	0.05%	1.99%
4	0.07%	0.23%	2.09%	0.03%	0.05%	2.46%
5	0.06%	1.08%	1.84%	0.03%	0.08%	3.08%
6	0.04%	1.42%	2.21%	0.06%	0.10%	3.83%
7	0.04%	2.52%	3.20%	0.06%	0.35%	6.17%
8	0.02%	5.61%	3.42%	0.06%	0.30%	9.42%
9	0.00%	2.24%	1.90%	0.02%	0.19%	4.35%
10	0.00%	4.41%	1.96%	0.03%	0.34%	6.75%

*Source: Own calculations based on data from the SHIES 2010 survey*

Table 12 and Figure 11 show that Swaziland's overall tax system is progressive. However, the system is not progressive at all income levels. Figure 11 shows that the system is regressive for decile 1, decile 3, decile 7 and decile 8 as the tax incidence for households in these deciles is higher than their market share of income. The Reynold-Smolensky index, which is a summary measure of progressivity, shows that the country's indirect tax system based on these taxes is slightly progressive as the index was only 0.0001. The direct tax and indirect tax led to a reduction of the GINI coefficient from 0.7909 to 0.7422.



**Figure 11: Post-tax Income Distribution**

### 4.3 Public Expenditure Incidence

For the purposes of this research the public expenditure incidence focused primarily on the Government's spending on health and education, because of the positive impact which both health and education have on improving human development and also because of the Government's commitment to funding these expenditure items by allocating to them funds equivalent to approximately 10 per cent of the country's GDP. Essama-Nssah (2008) maintains that measuring the benefits accruing to households or individuals from publicly provided goods or services maybe complicated as the analysis may be applied only to assignable public expenditure of which the beneficiaries may be identified. In order to address this problem, Demery (2003) recommends that, for purposes of a benefit incidence analysis, the benefits from an expenditure programme should be valued on the basis of the unit cost of the provision of such benefits. This may be determined by combining information on the cost of provision with data on the usage of the relevant public goods and services. Demery (2003) further indicates that these estimates should be based on recurrent expenditure. Hence this research used recurrent expenditure only to determine unit costs as it was not possible to determine the value from the capital expenditure.



Mtei et al. (2010) conducted research in Tanzania to determine who bears the burden of healthcare financing. In their paper they identified the following three sources of health care financing, namely, taxes collected from the public, donor funds and out-of-pocket expenses. The ability to pay principle was used in order to estimate the burden of the out-of-pocket expenses on households. The conclusion reached was that healthcare financing would be deemed to be progressive if the richest households contributed a higher proportion of the income to health care financing compared to poor households. The SHIES 2010 also collected data on household expenditure on both education and health facilities. In this study this expenditure was compared with the households' income to assess the burden of financing these services on households.

#### 4.3.1 Education Spending Incidence

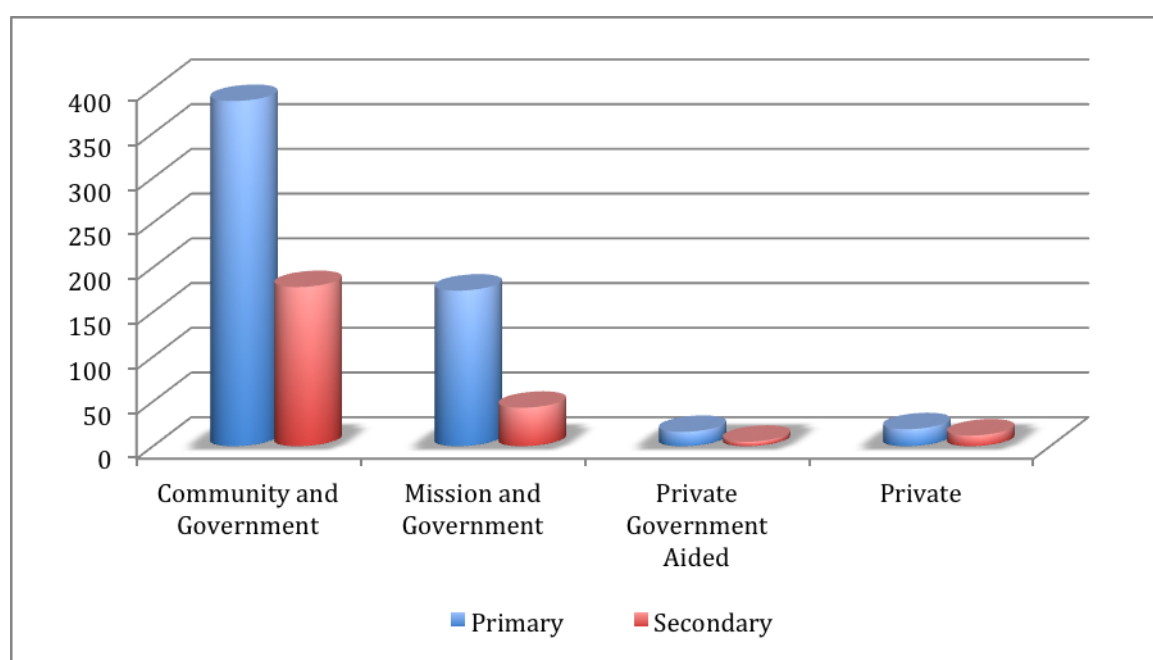
Public expenditure in education is generally considered to be important for both poverty alleviation and the promotion of economic growth. World Bank (2006) indicated that an adequate level of public expenditure is crucial, especially as regards the manner in which the funds are allocated in order to ensure that the allocation benefits to those who need it the most. The World Bank (2006) also noted that developing economies face difficulties in deciding on the best way in which to allocate resources between primary education and tertiary education as primary education is considered to be more progressive and equity enhancing compared to tertiary education. Although tertiary education is considered to be less progressive than primary education it is closely linked to the improvement of human development, labour productivity and economic growth. 15 per cent of the Swazi government's total expenditure comprises spending on education and the highest spending is on primary education, the government also faces the challenges confronting other economies of finding the best way in which to allocate its scarce resources between primary education and tertiary education.

**Table 13 : Government Spending on Education**

	2009/2010	2010/2011	2011/2012	2012/2013
	E	E	E	E
Primary Education	705,941,698	798,797,219	824,231,610	876,385,504
Secondary Education	536,446,415	606,283,860	607,896,860	673,020,478
Tertiary Education (Local university support, teachers training college support and scholarships)	307,616,852	285,461,232	302,679,386	287,348,825
<b>Total Formal Education Spending</b>	<b>1,550,004,965</b>	<b>1,690,542,311</b>	<b>1,734,807,856</b>	<b>1,836,754,807</b>
<b>Other Education Spending</b>				
Support for vocational training, adult education, non-formal education and curriculum development	60,558,654	81,147,755	81,871,892	87,360,703
<b>Total Education Spending</b>	<b>1,610,563,619</b>	<b>1,771,690,066</b>	<b>1,816,679,748</b>	<b>1,924,115,510</b>
<b>Total Government Expenditure</b>	<b>10,935,357,000</b>	<b>10,347,335,000</b>	<b>10,705,472,000</b>	<b>11,350,196,000</b>
<b>Education Spending as a % of the Government Expenditure</b>	<b>14.73%</b>	<b>17.12%</b>	<b>16.97%</b>	<b>16.95%</b>

*Source: Compiled using the government's budget estimate book*

Figure 12 below gives a background of Swaziland's schooling system as reflected in the annual education census report for 2010. The figure also shows that government funds a majority of the schools in Swaziland. The community and government owned schools refer to those schools to which the members of the communities in which the schools are based made cash and in kind contributions towards the establishment of such schools. The mission government aided and the private government aided schools comprise those schools that receive support from the government either through the payment of teachers' salaries and/or the provision of educational equipment and other school utilities.



**Figure 12: Swaziland's Education Landscape**  
Source: Annual Education Census Report 2010

**Table 14: Unit Estimation of Education Subsidy**

Usage of Education Facilities 2009/10	Primary	Secondary	Tertiary
	Education	Education	Education
Government Expenditure ( <i>Amounts in Emalangeni</i> )	705,941,698	536,446,415	307,616,852
Enrolment Rates	241,231	88,850	5,523
Annual Estimated Unit Subsidy	2,926.41	6,037.66	55,697.42
Monthly estimated Unit Subsidy	243.87	503.14	4,641.45

Source: Own calculations based on data from the government budget and the education annual education report

Although the government funds education, the users of the educational services are nevertheless, expected to pay school fees except in the case of free primary education.

When deriving the unit subsidies for benefit incidence analysis revenue from cost recovery should be netted out of the government spending especially if the cost recovery goes back to the government as this means that the in-kind subsidy to the households is reduced, however, if the revenue remains within the facility providing

the service for upkeep then it should not be netted out as it adds value to the service that the households will receive (Demery 2000:15).

For the purposes of this research the fees payable to the education facilities were not netted out as the revenue remains within the facilities in order to supplement the government's funding. When carrying out the SHIES survey in 2010, the data collected was estimated for a single month such that where households had recorded their annual spending, this was divided by 12 in order to estimate the monthly average (Central Statistics Office 2010). In estimating the unit subsidies, the annual education subsidy based on the annual government expenditure on education and the annual enrolment rates was also divided by 12 in order to ensure that the subsidy was comparable with the household income and expenditure data.

### 4.3.2 Primary Education

In order to assess the primary education benefit that accrues to the households, the unit subsidy calculated in Table 14 above was multiplied with the usage rate reported by the households, that is, the number of primary school going children reported by the households. The results are presented in Table 15 below.

**Table 15: Primary Education Benefit Incidence**

Welfare Decile	Usage	Subsidy E	Share of Subsidy	Share of Income
1	4244	1,034,687	6.09%	2.51%
2	6907	1,683,927	9.91%	22.23%
3	8160	1,989,408	11.71%	23.11%
4	8935	1,772,426	10.43%	13.32%
5	7270	2,029,391	11.94%	12.97%
6	8324	2,029,391	12.33%	10.89%
7	8594	2,095,217	12.33%	10.78%
8	5978	1,457,436	8.58%	1.47%
9	7408	1,806,070	10.63%	1.82%
10	4485	1,093,443	6.44%	0.44%

*Source: Own calculations based on households' usage of primary education facilities as per the SHIES 2010 survey*

Public spending on primary education is not progressive as the poorest decile obtains the least subsidy compared to the other deciles. The primary education subsidy represents only 2.51 per cent of the income of the poorest households. The major reason for the non-progressivity of the education spending is the fact that the poorest households demonstrate the lowest usage of the education facilities. This may be an indication that although the government has adopted the free primary education policy for all, out-of-pocket education expenses such as uniform costs or transport costs may be unaffordable for the poorer households and, thus, they

are not able to afford to send their children to school. Households between deciles 3 and 9 demonstrate the highest usage of the primary public education facilities and therefore benefit most from the education subsidy. The benefit that accrues to the richest households is similar to the benefit that accrues to the poorest households. This is also because of the low usage of public primary education by the richer households. The richer households tend to send their children to private schools and, therefore, they do not benefit from the public primary education subsidy.

Ministry of Economic Planning and Development (2010) observed that the out-of-pocket expenses required to cover the other costs associated with attending school tend to be unaffordable for the poor households while, in some cases, the households withdraw children from school so that they can start working in order to help support their families. In their report Ministry of Economic Planning and Development (2010) also indicated that although the government's policy stipulated that no child should walk for more than five kilometres to school, this continues to happen in the rural areas. This creates a challenge for the poor households as regards their children attending school as these households are not able to afford transport costs. The Ministry of Education (2010) annual report also revealed that a lack of money to pay school fees among households is the most common reason for school dropouts in primary schools, with 17.6 per cent of school dropouts being attributed to a lack of money with which to pay school fees and 21.03 per cent to family reasons.

#### **4.3.3 Secondary School Education**

The benefit incidence results for the public spending on secondary schools were similar to the primary education results with the poorest deciles receiving the least share of the subsidy while households in deciles 4 to 10 received the largest benefit. This result was attributed to the low usage of secondary school facilities by the poor households. Table 17 below shows that the progression rate from primary education to secondary education was the lowest in the poorest deciles; that is, deciles 1 and 2. However, the rate increased when moving up to the richer households with the highest progression in decile 8. This is also indicative of a poorly targeted education subsidy as the richer households were deriving the highest benefit compared to the poorer households.

**Table 16: Secondary Education Subsidy**

Welfare Decile	Usage	Subsidy E	Share of Subsidy	Share of Income
1	641	322,513	2.44%	27.58%
2	1,380	694,333	5.25%	24.74%
3	2,114	1,063,638	8.05%	26.92%
4	2,719	1,368,038	10.35%	20.10%
5	3,153	1,586,400	12.00%	23.05%
6	2,588	1,302,126	9.85%	14.43%
7	4,179	2,102,622	15.91%	16.91%
8	3,574	1,798,222	13.61%	12.07%
9	3,586	1,804,260	13.65%	6.75%
10	2,334	1,174,329	8.89%	2.32%

*Source: Own calculations based on households' usage of secondary education facilities as per the SHIES 2010 survey*

**Table 17: Progression rates from Primary School to Secondary School**

Welfare Decile	1	2	3	4	5	6	7	8	9	10
Rate of Progression	15.10%	19.98%	25.91%	30.43%	43.37%	31.09%	48.63%	59.79%	48.41%	41.79%

*Source: Own calculations based on the results in Table 15 and 16 above*

#### 4.3.4 Tertiary Education

Castro-Leal et al. (1999) carried out a study in Africa to assess whether the poor households benefitted from government spending. They observed that the education subsidy increased when moving up the education levels from the primary level to the tertiary level. The ratio of the secondary education subsidy was twice that of the primary education subsidy while the tertiary education subsidy was significantly greater than that of the other levels. Swaziland is also no exception to phenomenon as the tertiary education subsidy is higher than the subsidy for the other levels of education; it is 19 times the primary education subsidy and 9.2 times the secondary education subsidy. Tertiary education spending is also not pro-poor as the poor households do not benefit from it at all. None of the poor households reported any of their children attending tertiary institutions with the usage of higher learning institutions manifesting at decile 5 only. In other words, the richest households derive the greatest benefit from the education subsidy.

**Table 18: Tertiary Education Subsidy**

<b>Welfare Decile</b>	<b>Usage</b>	<b>Subsidy</b>	<b>Share of</b>	<b>Share of</b>
		<b>E</b>	<b>Subsidy</b>	<b>Income</b>
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	41	190,299	2.39%	1.22%
6	45	208,865	2.63%	1.12%
7	128	594,106	7.47%	3.06%
8	303	1,406,359	17.68%	5.41%
9	582	2,701,324	33.96%	2.73%
10	615	2,854,492	35.88%	1.16%

*Source: Own calculations based on households' usage of tertiary education facilities as per the SHIES 2010 survey*

In order to improve attendance at higher learning institutions, the government of Swaziland offers scholarships to students. These scholarships cover tuition, books, accommodation, personal allowance and a uniform allowance where necessary. Students are permitted to study either in Swaziland, South Africa or any African country. The scholarships are available to everyone, regardless of financial background. As indicated above, there is a low usage of tertiary education by the poor households. This means that the benefit derived from the government scholarships also accrues to the richer households. On completion of their tertiary training, students are expected to repay the government scholarships as soon as they are employed. However, the government does not have a recovery policy or mechanism in place to ensure that those students who were awarded scholarships repay these scholarships. Subsequent to the 2010 fiscal crisis, the government did not have sufficient funds to provide these scholarships and, in 2012, it embarked on an exercise to develop a robust system that would enable the government to recover such scholarships from everyone whose higher education had been funded through the scholarship program.

### 4.3.5: Combined Education Subsidy

The results from Tables 15, 16 and 18 were combined in order to assess the combined incidence of the education public expenditure on households. The results are presented in Table 19 below.

**Table 19: Proportion of Subsidy to Households and the Contribution of the Subsidy to Income**

Welfare Decile	Primary Education Subsidy	Higher Education Subsidy	Tertiary Education Subsidy	Combined Education Subsidy	Subsidy as a % of Income
1	6.09%	2.44%	0.00%	3.56%	32.83%
2	9.91%	5.25%	0.00%	6.23%	31.40%
3	11.71%	8.05%	0.00%	8.00%	35.46%
4	10.43%	10.35%	0.00%	8.23%	23.60%
5	11.94%	12.00%	17.68%	9.97%	24.32%
6	12.33%	9.85%	7.47%	9.28%	19.00%
7	12.33%	15.91%	2.63%	12.56%	24.66%
8	8.58%	13.61%	2.39%	12.22%	17.94%
9	10.63%	13.65%	35.88%	16.54%	6.37%
10	6.44%	8.89%	33.96%	13.42%	2.08%

*Source: Own calculations based on the results from Tables 15, 16 and 18 above*

According to Cubero & Hollar (2010), when assessing the incidence and distributional impact of public spending it is important to distinguish between absolute incidence and relative incidence. They describe absolute incidence as the share of total spending received by each income group while relative incidence relates to the distribution of the spending relative to the distribution of pre-fiscal income. Table 18 above shows that Swaziland's absolute incidence on education spending is regressive as the richer households receive the highest share of the subsidy. Households in decile 9 received 16.54 per cent of the subsidy; households in decile 10 received 13.42 per cent of the subsidy while households in the poorest decile received 3.56 per cent of the subsidy. However, the relative incidence demonstrates that education spending is progressive as it improves the income of the poorest households by 32.83 per cent while making a contribution of only 2.08 per cent only to the income of the richest households.

The quasi-Gini coefficient for spending is based on the same concept as the quasi-Gini for taxes, however the quasi-Gini coefficient for spending lies between -1 and 1 with a negative value indicating progressivity in absolute terms; the Kakwani index, which is defined as the difference between the quasi-Gini for the spending and pre-tax/market income Gini, is also used to measure relative progressivity of spending where if  $K < 0$  spending is considered progressive relative to the original income (Cubero & Hollar 2010:22).

The quasi-Gini for education spending in Swaziland was 0.60422. The fact that the coefficient is positive confirms that education spending in Swaziland is regressive in absolute terms. The K coefficient was -0.1867, thus confirming the relative progressivity of the country's education spending. Although the country's education spending was regressive in absolute terms, the spending did improve the income distribution as the income Gini decreased from 0.7909 to 0.7185 after the education subsidy. This indicates that the RS index was 0.0724.

#### **4.3.6 Redistributive Impact of Education Spending**

The non-progressivity of education spending means that the country will struggle to achieve the free primary education for all. In order to ensure that the education subsidy reaches the people who need it the most, it is essential that government supplements the free primary education with other subsidies that would encourage school attendance by the poorer households. In addition, government must ensure that the learning institutions are easily accessible to the students while the improvement of feeding schemes in schools, especially those in the rural areas where poverty levels are high, may also help to encourage parents to send their children to school.

The high poverty levels also discourage households from sending their children to school as they use the children to help ensure that the basic needs of the family are met. In order to overcome this problem the government should consider adopting conditional cash transfer programmes that provide for the payment of a cash amount to every poor household that sends its children to school.

Conditional cash transfer programs are some of the policies adopted by governments to use market-oriented demand-side interventions to support the traditional supply-side mechanisms of investing in health and education facilities for the poor; the programs have been adopted as they promote long-term human capital accumulation and can break the intergenerational transmission of poverty (Rawlings & Rubio 2005:29).

Prasad (2008) refers to conditional cash transfers as a “magic bullet” owing to their ability to reach the poorest households quickly, their positive impact on human capital and their ability to reduce poverty and inequality, thereby breaking the intergenerational poverty cycle. The introduction of the cash transfer programmes would, improve the usage of education facilities by the poor households while, at the same time, fostering the reduction of poverty among the poor households.



Free primary education is intended to improve literacy rates. However, comprehensive human development that will ensure that people are equipped to free themselves from poverty requires people with skills that will enable them to be absorbed into the country's economic activities. This means that primary education alone is not sufficient for the improvement of human development as acquiring higher level education is also crucial. Table 20 below shows a low level of progression from secondary schools to higher learning institutions with progression to higher learning institutions being reported from decile 5 only and with the richest households demonstrating the highest progression rate from both the primary education level and secondary education level.

According to the labour force survey that was carried out in 2010, the country had an unemployment rate of 40.6 per cent. 48.5 per cent of this rate related to people with primary education, 40.5 per cent of people with secondary education was unemployed while 11 per cent of people with a tertiary qualification were unemployed. This high level of unemployment, especially among people with tertiary education, may also discourage attendance at higher learning institutions and, therefore, not improve the usage of tertiary institutions by the poor households. In order to address this problem, Ministry of Economic Planning (2012) recommended the revision of the country's education curriculum to ensure that it was relevant to the country's labour market. The Ministry's report indicated that the low rate of progression to higher institutions required government to introduce vocational training at the primary level.

**Table 20: Progression rates from secondary education to higher learning institutions**

<b>Welfare Decile</b>	1	2	3	4	5	6	7	8	9	10
<b>Rate of Progression</b>	-	-	-	-	1.34%	1.74%	3.06%	8.48%	16.23%	26.35%

*Source: Own calculations based on the results in Tables 18 and 19 above*

#### **4.3.7 Burden of Education Financing on Households**

If households use education facilities they are expected to incur out-of-pocket expenses for school fees, school uniforms, books and the other expenses that are required to support education. According to Mtei et al. (2010), out-of-pocket payment are generally regressive and damaging to the poor as only those who are able to afford them use the public facilities, thus benefitting from the public expenditure subsidy. Table 21 below shows that the education out-of-pocket expenses incurred by households are slightly progressive in absolute terms as the proportion of out-of-pocket expenses to household income increases when

moving up the deciles from the poor households to the richer households. The progressivity of these expenses, however, holds up to decile 4 after which the proportion of education expenses to income declines for the households in deciles 5 and 6. Households in deciles 4, 7 and 8 bear the highest burden of the education expenses while the richest deciles bear the lowest expenditure. It is possible that the households in deciles 9 and 10 may demonstrate the lowest incidence of public education expenses because most of these households sent their children to private schools and, thus, they do not bear the incidence of public education finance.

**Table 21: Education Expenditure Incidence**

<b>WD</b>	<b>Disposable Income</b>	<b>Education Expenditure</b>	<b>Share of Education Expenditure</b>	<b>Education Expenditure to Income</b>	<b>Share of Disposable Income</b>
1	4,120,763	85,073	0.71%	2.06%	0.93%
2	7,556,664	249,581	2.07%	3.30%	1.70%
3	8,595,061	407,181	3.38%	4.73%	1.94%
4	13,266,508	782,062	6.49%	5.88%	2.99%
5	15,474,293	725,493	6.02%	4.64%	3.49%
6	18,358,805	762,978	6.33%	4.15%	4.14%
7	18,932,781	1,402,651	11.63%	7.22%	4.27%
8	24,519,214	1,471,503	12.20%	5.66%	5.53%
9	96,831,472	2,211,860	18.34%	2.23%	21.83%
10	235,904,826	3,960,732	32.84%	1.60%	53.18%

*Source: Own calculations based on the education expenditure and income data from the SHIES survey*

A comparison of the households' education expenditure to income and the households' share of disposable income, however, revealed that education spending was regressive in relative terms as the proportion of household expenditure to income was higher than the share of income for households in decile 1 to decile 8. Universal indices were calculated to determine the overall redistributive effect of education spending on households. It was observed that education expenditure is regressive as it has a positive quasi-Gini coefficient of 0.7601 and a negative kakwani index of -0.0308. The indices are summarised in Table 22 below:

**Table 22: Universal Education Indicators**

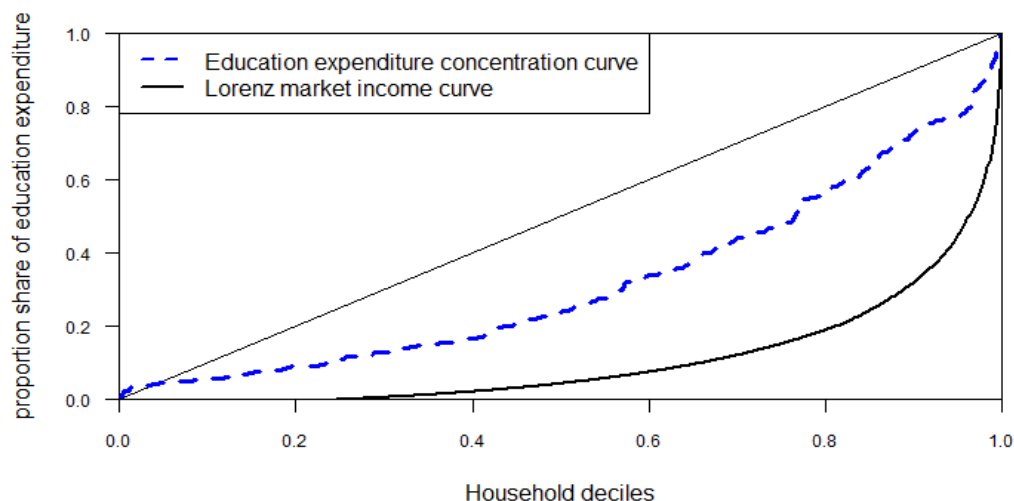
<b>Pre-tax Gini</b>	<b>Quasi- Gini of Education Expenditure</b>	<b>Kakwani Index</b>	<b>Reynold Smolensky Index</b>	<b>Post-Education Expenditure Gini</b>
0.7909	0.7601	-0.0308	0.0411	0.7498

*Source: Own calculations based on the results obtained from the SPSS programme that was used.*

Although expenditure on education is lower for the low income households than it is for the higher income households the spending on education by households remains higher than the share of income for the households in decile 1 to decile 8. For the poorest households the expenditure of education to income is 2.2 times the households' share of disposable income while, for the richest households, the share of disposable income is significantly higher than the households' proportion of income spent on education.

As mentioned earlier, the Ministry of Education (2010) revealed that education user fees was the main reason for both the high level of school drop-outs and the low progression into higher education institutions. It is clear that the government of Swaziland will have to make a policy decision on the levying of user fees as the regressivity of these fees is having an adverse impact on the government's objective of attaining the education for all. In order to improve enrolment rates, especially for children in low-income households, the government of Swaziland may have to consider the abolition of user fees. However, such a policy decision will require the government to realise that the abolition of the fees also means a reduction in revenue for the schools. In order to ensure that this lost revenue does not have a negative impact on the quality of education provided, the government will have to increase its spending on public learning facilities. If the government is unable to abolish education user fees completely because of limitations in its financial resources the government will also have to ensure that the user fees charged contribute to the improvement of both the quality of education provided and the learning facilities. Improving the access to learning facilities in the rural communities is also important, as it this would improve the usage of public education facilities by the poor households in the rural areas.

In cases where low enrolments are the result of households withdrawing children for labour purposes, the government will be forced to rely on other social policies such as the conditional cash transfer programmes mentioned above. Nevertheless, the adoption of these programmes should not be general, instead, they should be means tested and only targeted the poor households.



**Figure 13: Education Out of Pocket Expenses**

#### **4.4 Health Spending Incidence**

According to Castro-Leal et al. (1999), the public subsidy of social services such as health and education is based on the government's objectives of equity and efficiency as regards the distribution of resources, with efficiency gains being realised when the subsidies generate positive external benefits such as human capital development and poverty reduction. A government's decision to subsidise the provision of health services is intended to yield efficiency gains as the health status of people determines their quality of life, level of productivity and longevity. In terms of Swaziland's National Development Strategy and the country's vision 2022 strategy, the Swazi government also views health as an important tool for human and social development and has articulated its plans to improve its efficiency in providing these services.

Due to the unavailability of the micro-data required for allocating the healthcare subsidy to households, a complete health incidence analysis could not be carried out. However, review of the SHIES 2010 report revealed that there was a low usage of health facilities by the low-income households in comparison to the middle and high-income households. The report showed that only 8.3 per cent of the people in poor households reported that they had consulted a health worker during the survey period while 17.9 per cent of people in the middle and high-income households reported having visited a health worker during the survey period. Despite the fact that it was not possible to carry out a complete health benefit incidence analysis, the low usage reported in the SHIES report shows that health care spending may also

be regressive because, if people were to benefit from the government health spending they would have to use the facilities.

In order to assess whether the costs incurred by households in accessing health care services may be a reason for the low usage of health facilities by the poor households, a health care financing incidence was carried out. In order to estimate the burden of health care financing, the health related expenditure that households reported in the survey was compared to the households' income to assess whether the expenditure varies with the households' ability to pay.

#### **4.5 Household Usage of Health Facilities**

According to O'Donnell et al. (2008), the redistributive effect of health care financing is realised if payments towards healthcare financing are compulsory and not dependent on utilisation. This may be achieved if healthcare financing is derived from tax revenues or compulsory public health insurance contributions. This means that, when assessing the redistributive effect of health care financing, all forms of financing, including out-of-pocket expenses, must be taken into consideration. In Swaziland, health care is financed primarily by the government by establishing and maintaining the health facilities, paying of salaries to the people running the facilities; user-fees are also levied on users of the health-care facilities. Private companies operate health care insurance schemes and membership of these schemes is voluntary and, in most cases, contributions are paid by employers. The SHIES survey did not break down the health care expenditure that the households incurred, whether such expenditure related to health care insurance contributions or the expenses people incurred when visiting the health care facilities. In view of the absence of a compulsory health insurance scheme in Swaziland, the health expenses recorded by households in the SHIES were assumed to relate to out-of-pocket expenses.

Table 23 below shows that healthcare financing is slightly progressive as households in welfare decile 1 incurred a lower burden of healthcare financing. In addition, the expenditure on health care financing that households in this decile incurred was also lower than their share of income. The richest households, however, incurred the lowest burden of health care financing while households in deciles 2, 3, 5, 7 and 8 incurred the highest burden. The progressivity of health care financing may be assessed by determining the proportion of health care expenditure to the households' ability to pay where the ability to pay relates to a welfare measure which may either be income or expenditure. Progressivity is achieved if the

proportion of health care financing to the ability to pay measure increases when moving up from the poorest deciles to the richer deciles Mtei et al. (2010). Although healthcare spending to ability to pay is slightly progressive in absolute terms, the households in the poorest welfare decile demonstrated the lowest portion of health care expenditure while the richest welfare decile demonstrated the highest portion of health care expenditure. The proportion of healthcare expenditure to income was also lower than the households' share of income for all the welfare deciles. This therefore indicates that health care financing relative to household income is progressive.

Table 27 below shows that the health care financing through out-of-pocket expenses is not regressive as the share of total health expenses is lower for the low income households while the richest households bear the highest share of the health expenditure. A comparison of the households' health expenditure to their income revealed that health expenditure consumes 0.55 per cent only of the richest households' income but takes up 0.65 per cent of the poorer households' income. The government is, however, making efforts to achieve universal health care and improve the access to health care services of the poor households. The country is currently exploring the feasibility of prepaid health care through a National Health Insurance Scheme which will allow for the prepayment of health costs by households.

**Table 23: Burden of Healthcare Financing on Households**

<b>WD</b>	<b>Disposable Income</b>	<b>Health Expenditure</b>	<b>Share of Health Expenditure</b>	<b>Health Expenditure to Income</b>	<b>Share of Disposable Income</b>
1	4,120,763	26,899	0.78%	0.65%	0.93%
2	7,556,664	64,286	1.87%	0.85%	1.70%
3	8,595,061	87,825	2.56%	1.02%	1.94%
4	13,266,508	87,847	2.56%	0.66%	2.99%
5	15,474,293	161,060	4.69%	1.03%	3.49%
6	18,358,805	187,936	5.48%	1.01%	4.14%
7	18,932,781	366,336	10.67%	1.89%	4.27%
8	24,519,214	518,029	15.10%	1.99%	5.53%
9	96,831,472	580,800	16.92%	0.59%	21.83%
10	235,904,826	1,350,765	39.36%	0.55%	53.18%

*Source: Own calculations based on the health expenditure and income data from the SHIES survey*

Table 24 below shows that the health expenditure quasi-Gini coefficient was positive at 0.8400 while the Kakwani index was also positive at 0.0491. These indicators confirm the progressivity of health care financing in Swaziland. This indicates that the richest households bear the highest burden of health care costs.

**Table 24: Universal Health Expenditure Indicators**

<b>Pre-tax Gini</b>	<b>Quasi-Gini of Health Expenditure</b>	<b>Kakwani Index</b>	<b>Reynold Smolensky Index</b>	<b>Post-Health Expenditure Gini</b>
0.7909	0.8400	0.0491	0.0463	0.7446

*Source: Own calculations based on the results obtained from the SPSS programme that was used.*

#### **4.6 Combined Health and Education Financing Incidence**

The incidence of health and education expenditure is deemed to be progressive in absolute terms as the poorer households demonstrated a lower combined incidence of health and education expenditure compared to the richer households. The combined incidence of health and education increases when moving up from the poorer deciles to the richer deciles. However, the highest incidence is borne by households in the deciles 7 and 8. Nevertheless, the combined incidence of health and education expenditure relative to the households' share of income shows that the incidence of health and education expenditure is higher than the households' share of income from welfare decile 1 to welfare decile 8. This indicates that health and education spending is regressive in relative terms.

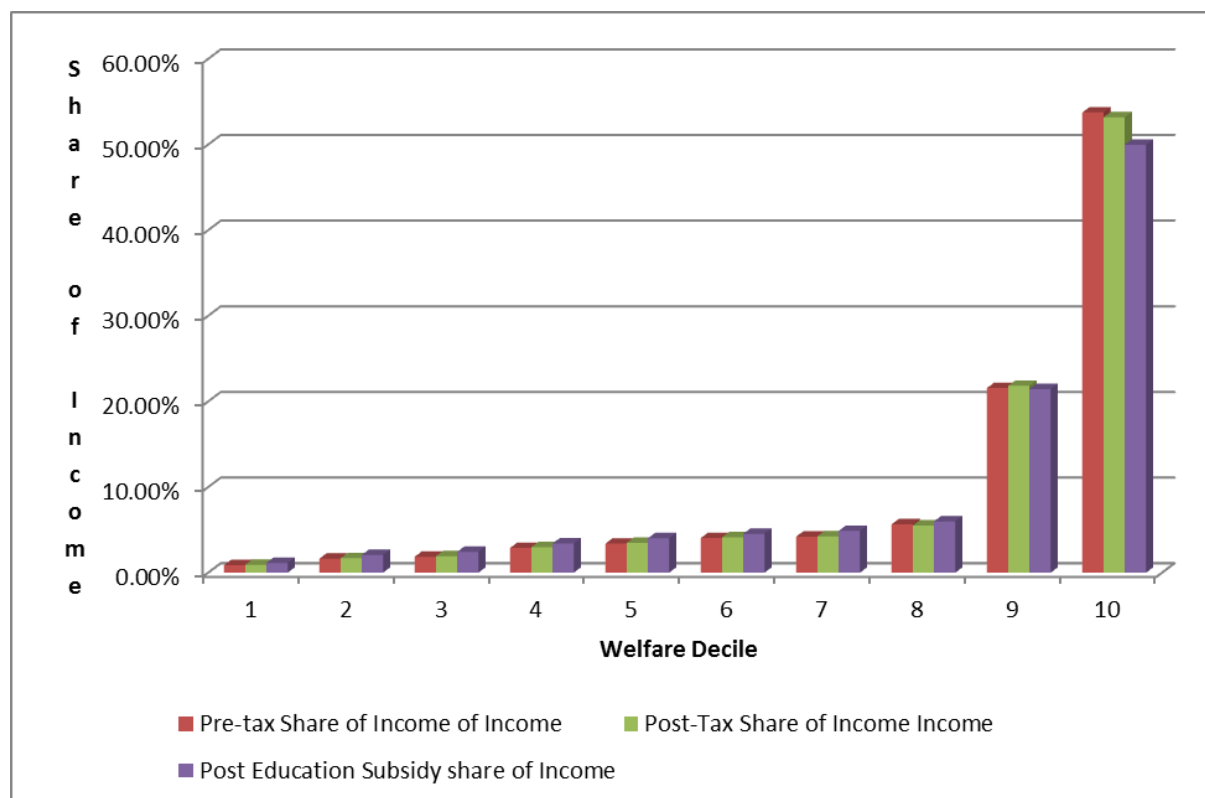
**Table 25: Combined Health and Education Financing Incidence**

<b>WD</b>	<b>Share of Disposable Income</b>	<b>Education Expenditure Incidence</b>	<b>Health Expenditure Incidence</b>	<b>Combined Incidence</b>
1	0.93%	2.06%	0.65%	2.71%
2	1.70%	3.30%	0.85%	4.14%
3	1.94%	4.73%	1.02%	5.75%
4	2.99%	5.88%	0.66%	6.54%
5	3.49%	4.64%	1.03%	5.66%
6	4.14%	4.10%	1.01%	5.10%
7	4.27%	7.22%	1.89%	9.10%
8	5.53%	5.66%	1.99%	7.66%
9	21.83%	2.23%	0.59%	2.82%
10	53.18%	1.60%	0.55%	2.15%

*Source: Own calculations based on the results from Tables 21 and 26*

## 4.7 Net Fiscal Incidence

In view of the data limitations regarding the allocation of health spending on households, the net fiscal incidence was only able to assess the extent to which the government redistributes resources through direct taxes, indirect taxes and public spending on education. The government's education spending is 2.3 times higher than the health spending, therefore, the non-inclusion of health spending may not have a significant impact on the overall fiscal incidence results. Figure 14 below show that, despite the fact that government spending on education was pro-rich; it has improved both the income for the poor households by 31.9 per cent and their share of income by 0.26 percentage points. The income for the richest households has been reduced by 4.75 per cent while their share of income was also reduced by 3.77 per cent.



**Figure 14: Income Distribution Pre-fiscal Intervention and after Fiscal Intervention**

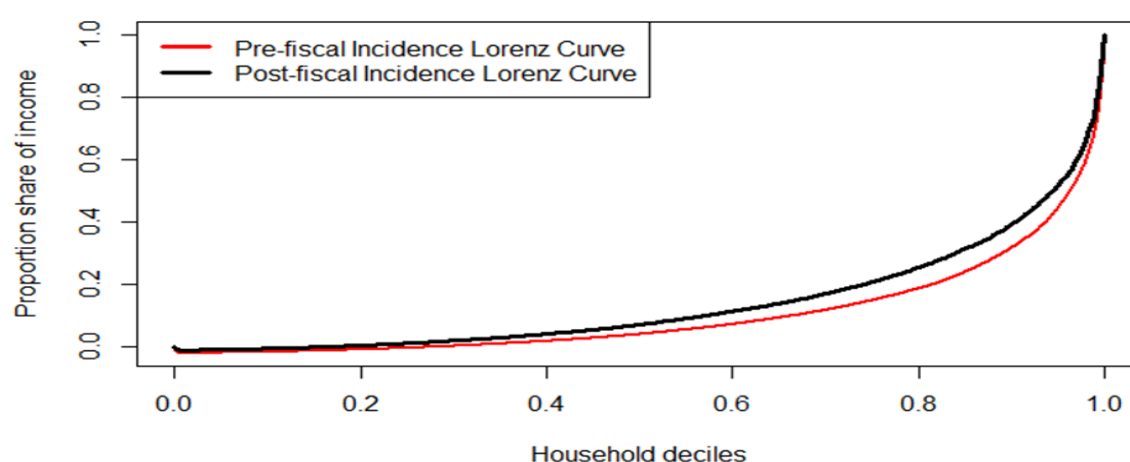


**Table 26: Income Distribution Pre-fiscal Incidence and Post-fiscal Incidence**

Welfare Decile	Pre-fiscal Intervention Share of Income	Post-fiscal Intervention Share of Income
1	0.90%	1.15%
2	1.65%	2.09%
3	1.87%	2.44%
4	2.90%	3.42%
5	3.41%	4.03%
6	4.06%	4.55%
7	4.23%	4.89%
8	5.66%	6.00%
9	21.57%	21.46%
10	53.75%	49.98%

*Source: Own calculations based on the results from Figure 14*

The taxes reviewed for this research, together with the spending on education, led to a decline in the Gini coefficient from 0.7909 to 0.7185 based on the 2010 household survey and the 2010 government budget. Figure 15 below shows the impact of the taxes and the public expenditure on education on the Lorenz curve. The post-fiscal intervention Lorenz is closer to the 45 degree line of perfect inequality and confirms that the country's tax policy and education expenditure policy are redistributing income. Figures 14 and 15 shows that households in decile 3 to decile 7 demonstrated the highest improvement in the share income, while the share of income for the households in deciles 9 and 10 was reduced by 3.89 percentage points.



**Figure 15: Pre-fiscal incidence and Post-fiscal incidence concentration curves**

## CHAPTER 5 RESEARCH CONCLUSIONS

### 5.1 Summary of Findings

The study set out to assess the extent to which the government of Swaziland has been able to use its fiscal policy to redistribute resources and reduce the level of inequality in the country. The study reviewed the country's tax policy, government spending on education and the user fees levied on the use of health and education facilities. The study assessed both the ability of the government's direct and indirect tax policies to redistribute resources from the rich to the poor, the extent to which public expenditure was benefitting the poor households more than the rich households and the extent to which the rich households were bearing a higher burden of user fees compared to the poor households. The study also reviewed the extent to which the fiscal policy may be used to realise the goals set out in the National Development Strategy as well as to achieve universal primary education for all and universal health coverage.

The literature review revealed that the level of income or consumption inequality in a country has an adverse effect on both poverty and human development. The study noted that Swaziland has been struggling to reduce its poverty rate and improve the human development of its citizens. In terms of the country's National Development Strategy Paper, the country's main objectives are to move from the low human development category to the medium human development category and to reduce poverty by more than 50 per cent by 2015. The study also noted that the country is still struggling to achieve these goals. According to the UNDP (2015), from 2010 to 2015 Swaziland's Human Development Index (HDI) has ranged consistently between 0.527 and 0.541. These indices indicate that the country has made very little progress as regards moving out of the low HDI category and attaining the top 10 per cent of the medium human development countries. The country's poverty levels have also remained fairly high with the Central Statistics Office (2010) revealing that the poverty level had only decreased by 6 percentage points from 69 per cent in 2000 to 63 per cent in 2010.

Although the country's inequality measure has been used in previous studies which have employed data from the household survey that was carried out in the 2000/2001, this study sought to assess the level of inequality using income as a welfare measure as opposed to the use of expenditure as a welfare level in the previous studies. This study used household income data from the 2009/2010 household survey. The study found that the income inequality in the country was fairly high with a GINI coefficient of 0.7909. The progressivity of the tax policy and the public expenditure policy was determined to assess the extent to

which these policies are resulting in the redistribution of resources. The government of Swaziland also relies on user fees for health care and education as a source of revenue, thus, the study also assessed the extent to which these user fees affect the redistribution of income.

Although there has been an increase in the extent of the resources allocated to health and education spending, the low usage of these public facilities by poor households implies that the benefits of these facilities accrue to the rich households. The Ministry of Economic Planning and Development (2010) indicated that the country was still struggling to achieve its goal of universal primary education as a result of the high level of school drop outs caused by the inability of poor households to afford school fees. The Ministry of Education (2010) revealed that this situation was particularly prevalent in the rural communities.

Although the Swazi government has introduced free primary education, the poor households are still struggling to send their children to school because of the other costs associated with school attendance. In addition, the high levels of poverty and unemployment are also affecting the enrolment rates as, in some cases; parents sometimes have to withdraw their children from school for them to work in order to help to support the family. In order to reduce the number of school drop outs as a result of schooling expenses, the government will have to allocate funds to other social programmes that will encourage parents to send their children to school. For example, the government should consider introducing conditional cash transfer programmes in terms of which the cash paid to poor households for sending their children to school could be used to support such families. This money may help to improve the well-being of the families while it could also be used partly to pay some of the schooling expenses. Government will also have to improve the accessibility of the schools in the rural communities in order to minimise the costs involved in accessing these facilities. Government should also revise the current tertiary education scholarship programme. The study found that this programme is currently not targeting the poor households as there is a low progression rate to the higher learning institutions in the lower income households. In other words, the rich households are benefitting from the scholarship fund rather than the poorer households. In view of the limited government funds, the government should make the scholarship fund a revolving fund by ensuring that all the beneficiaries repay the money after they have completed their studies. Government should also ensure that people from poor households are given priority and also that the programmes that are funded are relevant to the country's economic development.

Although it was not possible to assess the incidence of health care spending because of data limitations, the incidence of healthcare financing through out-of-pocket expenses in relation to the households' ability to pay revealed that the proportion of healthcare financing to household income was low for poor households and increased with the increase in income when moving from the poor to the rich households. The study found that the richest households bear the lowest incidence of health care financing. The incidence of out-of-pocket healthcare financing was lower than the share of income for all the welfare deciles. Figure 8 and 9 revealed that when household expenditure was used as a welfare measure, out-of-pocket health care financing made up 6 per cent of the expenditure of poor households while, for the rich households, it represented 3 per cent of their expenditure only. Although the incidence of health-care financing through out-of-pocket expenses may be low, the government should still consider the other factors that result in a low usage of healthcare facilities by the lower income households.

While the tax incidence results showed that the taxes reviewed were progressive, the country may not be able to rely on tax revenue only in order to redistribute resources. The study found that there is a narrow income tax base in Swaziland from which the government may generate personal income tax and SACU receipts are expected to decrease. More than two-thirds of the country's revenue is generated through the SACU receipts and the significant decline in these receipts during the 2010/11 fiscal year left the country in a financial crisis. The government of Swaziland has limited revenue-generating resources at its disposal and this means that the government may not be able to implement the policies that would enable the redistribution of resources and the alleviation of poverty and improve the human development of its citizens. Gupta et al. (1998) found the following problems in implementing equity enhancing policies to be common in developing economies and it is thus possible that the government of Swaziland may encounter some or all of these problems also:

- The desired level of spending may not be sustainable given a government's resources.
- The fact that developing economies have a large proportion of their population based in the rural and informal sectors and this proportion of the population has limited interaction with formal institutions, may make it difficult for the government to deliver the necessary goods and services.

## **5.2 Policy Implications and Recommendations**

In view of the revenue limitations that the Swazi government faces, restructuring of the public expenditure is important. It is essential that the government improve its focus on productive public expenditure that can help to improve the country's economic growth. The government of Swaziland has been criticised for its poor allocation of public funds; World Bank (2006) observed that more than half of the government's budget was used to finance the civil service wage bill, public order, safety and defence, while the government was also losing its revenue as a result of a lack of controls over its public expenditure. However, despite recommendations by the World Bank (2006), the 2009/10 fiscal year budget speech revealed that the government had not made any changes to its budget allocation, as the civil service wage bill for the financial year in question consumed 50.6 per cent of the recurrent budget. Nevertheless, subsequent budgets have shown that the government acknowledged that the civil service wage bill was unsustainable. Although this wage bill remains high the government had managed to reduce it to 49.8 per cent of the recurrent expenditure in the 2012/13 financial year and, by the 2014/15 financial year, it had reduced to 44.3 per cent of the recurrent expenditure.

Tanzi & Zee (1997) indicate that public expenditure policy and the budget policy are some of the factors that impact on economic growth, resource redistribution and reduction of inequality. Although the taxes reviewed in the research study were found to be progressive, the government of Swaziland cannot rely on its taxes for the redistribution of resources as a majority of its tax revenue emanates from the SACU receipts and these receipts have been projected to decline in the coming years. The level of public expenditure on education and health that will have the necessary impact on reducing inequality requires government either to generate more revenues than it is currently generating or to restructure its expenditure and institute strong controls over public expenditure management. Chu et al. (1995) recommend the use of empirical data to carry out a comparative review of the output indicators of various expenditures in order to determine whether the output yielded by the expenditure is in line with the government's policy objectives for that particular expenditure. The government has to assess whether the expenditure on the civil service wage bill, military and police spending the subventions to the loss-making public enterprises are yielding any economic gains for the country. If not, additional resources could be reallocated to the public expenditure items that have been proven to generate long-term positive economic gains such as health and education spending.

The World Bank (2006) review of Swaziland's public expenditure found that almost half of the state-owned enterprises had been making losses for several years and that the losses were supplemented by subventions from government to keep the enterprises operating. The subventions at the time were equivalent to 1.3 per cent of GDP. However, subsequent to the World Bank (2006) review, there has not been a significant change with regard to the spending on state owned enterprises despite the fact that the World Bank had made strong recommendations regarding the financial restructuring of several enterprises and the privatisation of others. Continued subventions to the loss making entities, the significant civil service wage bill, together with the excessive expenditure on military and the police, may be some of the areas of wastage on which the government should focus, and consider reallocating the funds from these programmes to programmes that promote human development and enable an equitable distribution of resources.

With regard to the state-owned enterprises, the government should determine whether the outputs of these entities could not be efficiently produced by the private sector and then consider the privatisation of these enterprises. This may result in the generation of revenue from the sale of the enterprises, as well as improved service delivery while the funds that were used to sustain these entities could be reallocated to social spending that supports the achievement of Vision 2022 objectives.

Although tertiary education is strongly linked to improved productivity which can in turn reduce inequality and poverty; for the government to benefit from such improved productivity, the spending on tertiary education should also support education that is in line with the country's economic objectives and ensure that it is targeted to the people that need it the most. In order to make the scholarship policy sustainable and in line with the government's policy objective of enabling the poor and low-income households to improve their level of productivity by ensuring that they acquire the relevant skills, it is essential that government ensures the policy is targeted at the households that need it the most and enforces the recovery of these funds as soon as people are employed.

Employment opportunities in Swaziland are also limited. The Integrated Labour Force Survey for 2010 revealed an unemployment rate of 40.6 per cent with 10.9 per cent of the unemployed being in possession of tertiary qualifications. This has led to high levels of labour migration to South Africa by the people with tertiary qualifications, meaning that the

government was not benefiting from its education investment in this people. For the government of Swaziland to benefit from its fiscal policy under the current budget constraints and to ensure that it creates sustainable human development and protection policies, the restructuring of public spending and the alignment of public spending with the government's policy objectives are essential.

## **CHAPTER 6 RECOMMENDATIONS FOR FUTURE RESEARCH**

This study relied on data from the Swazi government's national budget and the 2010 household survey. The study did not conduct an assessment of the quality of health and education services that are provided. Public expenditure on education is deemed to be effective if it provides people with the skills that will enable them to participate in the labour market productively and also be able to cope with globalisation and technological changes. Education spending that is not in line with the country's policy objectives will not yield economic outputs that promote economic growth and reduce inequality and poverty. It is, thus, recommended that future research assesses whether the current spending on education and the quality of the education provided by public institutions support the capacity building that will enable citizens both to participate productively in the labour market and to cope with globalisation and technological advancements, thus eventually contributing to the reduction in the inequality gap.

In view of the data limitations regarding the usage of health facilities by households, future research should review the extent to which government spending on health is contributing to the reduction of income inequality. Future research could also assess the quality of the health services to assess the extent to which they are relevant to society especially the low-income households that are not able to afford to seek medical care from private health institutions.

Swaziland is lagging behind in the progress it has made in achieving the human development goals as set out in the Vision 2022 strategic paper. In the near future it would thus be prudent for the government to review the reasons why it is still so far from attaining its human development goals as envisaged in the Vision 2022 and to assess how the redistributive ability of its fiscal policy could be improved to promote the country's human development.



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